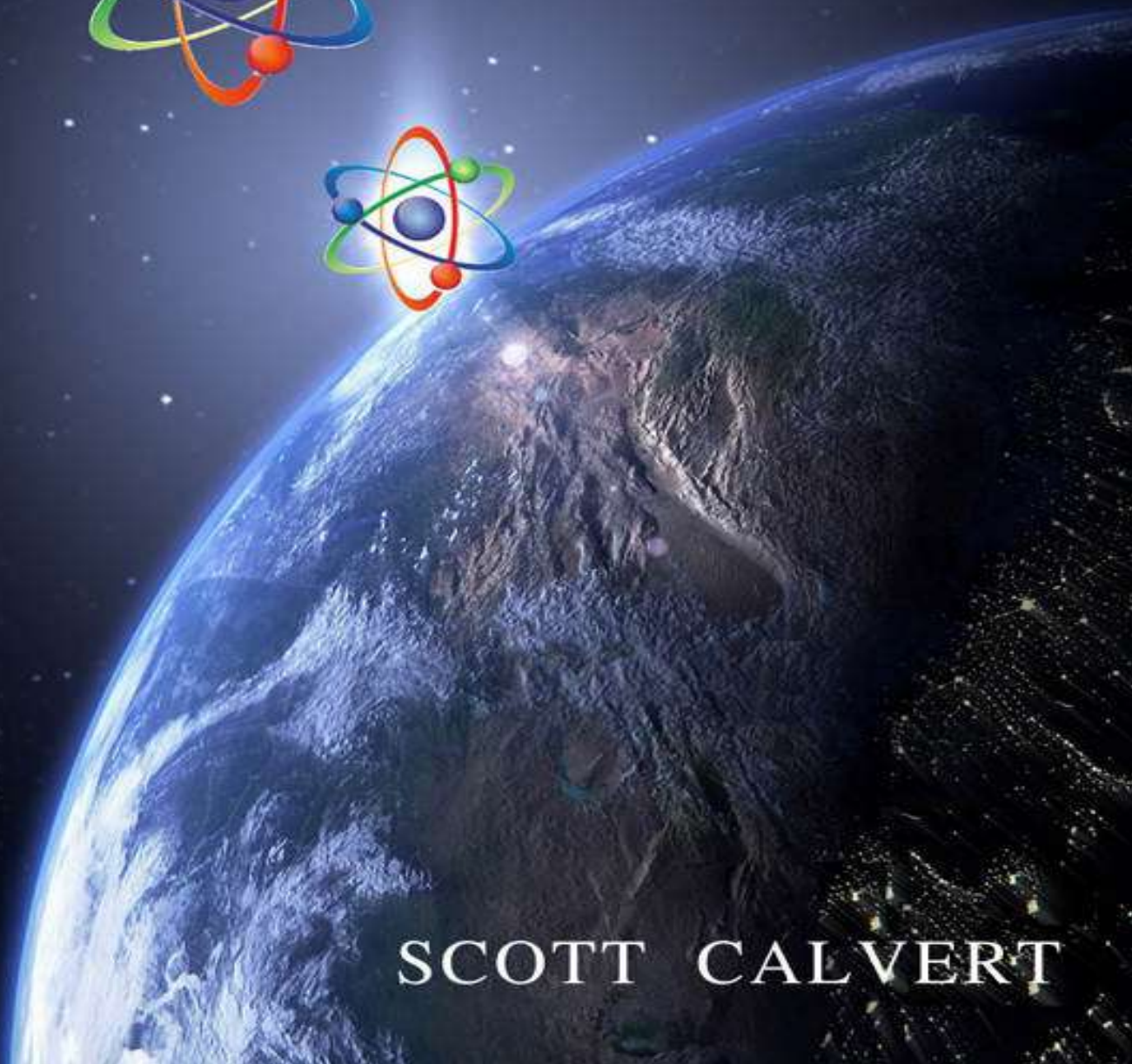
HOW TIME DILATION CREATES QUANTUM GRAVITY

The Key to the Natural Effect of Gravity Propulsion



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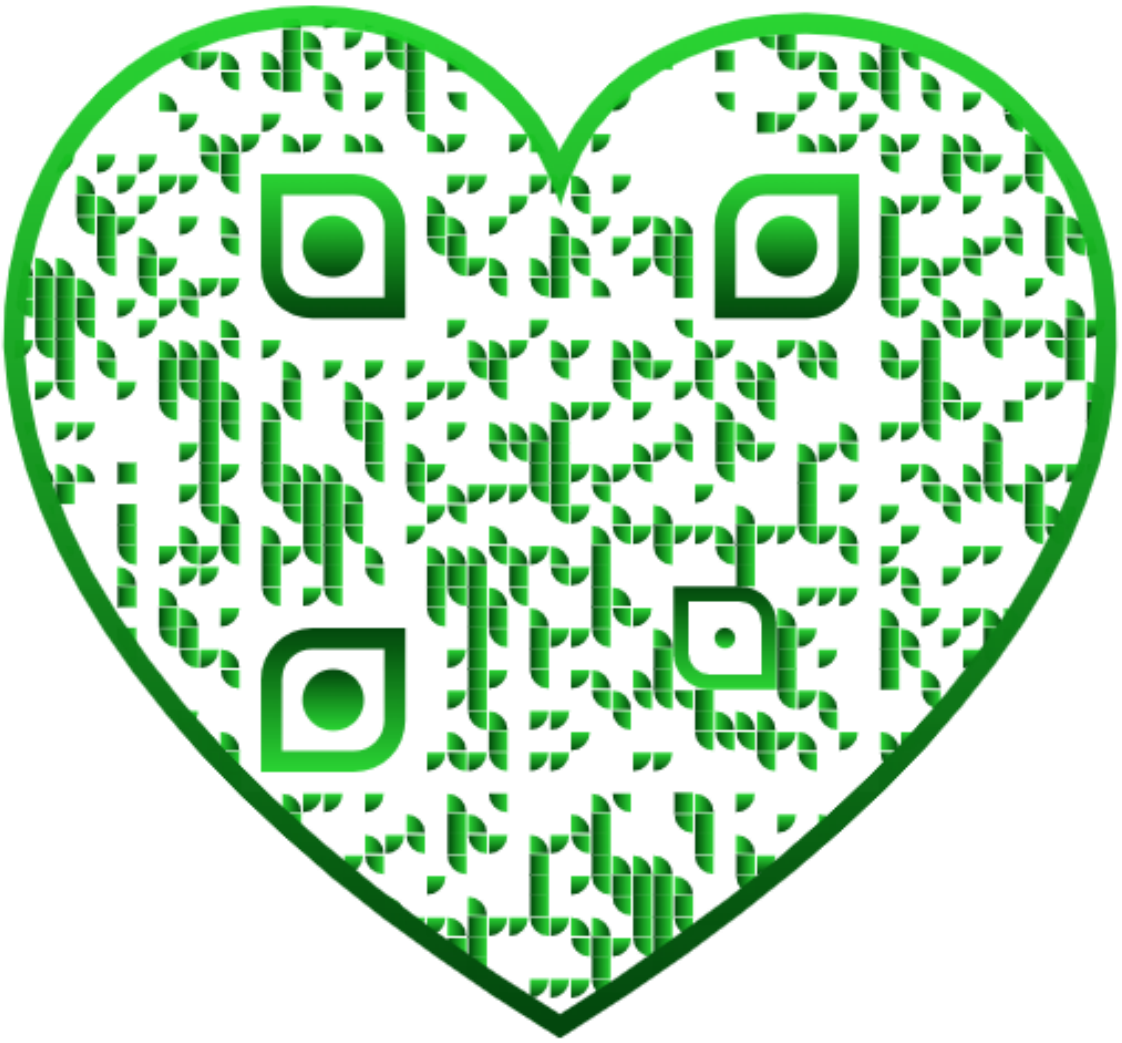

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Introduction

In this book you will learn how time is behind the creation of gravity at the atomic or quantum level. In essence time creates gravity, more specifically the time dilation which is created by any object of mass creates quantum gravity. It is proportional to the interaction between objects of mass depending on their size and the regulatory action of time. Time regulates and governs all mass from an atom, planet, star, black-hole or galaxy and the universe in order to maintain the maximum speed of "things" to the same constant. The effect of that regulatory action induces the force of gravity in objects of mass whether they are part of the same mass or at a distance.

One of the main reasons gravity has had such an elusive understanding throughout history is because it has always been described as an attractive force. Using that explanation or characteristic falsely identifies the main factor of the phenomenon thereby any conclusion or theory derived from it would be false. I had a pivotal moment in my quest to explain gravity which came after developing my theory when I realized gravity is not a force of attraction. It is in fact a force of propulsion naturally created in all atoms to propel them to the nearest and greatest source of time dilation. The entire universe starts out as loose elemental particles and the propulsion of gravity is the mechanism that creates everything in the universe and makes it what it is today. It starts the concentration of matter beginning with hydrogen and then nebulas to create more complex atoms. It also is the main factor in the process of a regenerating universe because as the process continues it will create the next universe in a single fluid repetitive process.

Gravity has always been thought of as an attraction and the only other possibility would be a push together rather than a pull together. Since the theory of gravity has never really been accurate when describing it as a pull of matter (an attraction) then the only other explanation is that it's a propulsion, the pushing of matter towards other matter. Objects of matter will gravitate toward one another by means of a continuous force that acts like a quantum level rocket engine that never runs out of

fuel. Every single atom that exists in the universe has this quantum engine which is powered by time dilation. When it is in a greater field of time dilation it has a greater force and lesser force in a lesser field of time dilation.

Another reason that gravity has been so difficult to pin down an explanation for is that there is no conceivable way an object reaches out and affects another to draw them closer together to attract them. In a quest to try to explain that the theories of gravitational waves and graviton particles came into being, I have heard the same information as all of you on what creates gravity, it is a wave, a particle or both or the curvature of space-time, I say it's none of those. It wasn't until I realized that the only thing that spans the distance between two objects of mass is time dilation and that's how I came to a final understanding of how gravity functions. It did take time, the greater part of my existence on this planet but I finally worked out how the process of gravity works.

I had previous theories to try and explain the attraction of gravity but they would always stop short of being able to fully explain how they functioned. That was not good enough for me, if a theory doesn't explain in every detail how something works then there is a gap that cannot be spanned making the theory improbable because it's like having puzzle pieces missing, you have no way to link the pieces on each side of the gap. When I simplified and looked at things from a very simple perspective the reality of how gravity functions unveiled itself to me. I think that is the biggest issue with most theories of gravity from general relativity to the current day, they are much more complicated and complex than they need to be. Theorists seem to think that the more something is unknown the more complex a solution must be. A journey of a thousand miles begins with a single step, start with step one not the step at nine hundred and ninety-nine miles.

In order to accomplish the task of defining gravitation as a simple process we will have to learn more about the relationship between space and time since they are proportional and inseparable. By using time dilation and the characteristics of space and time, the true sources of gravity, a clearer more defined picture of gravity will unveil itself. A gravity in its nature acting as a force since it clearly shows that in its characteristics and in our everyday experience of the effects of gravity. In a quantum theory of gravity all that is needed is to explain and show how gravity functions between two single atoms.

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Have you ever imagined what causes the earth to exert a gravitational attraction on the moon and the same in reverse? It is hard to comprehend just how that invisible action takes place from one object to another. It is an insurmountably task

to try and figure out how one object of mass pulls on another. What is reaching out through space to grab the other object? How is it grabbing the other object, is it by electromagnetism or some sort of wave or particle? What is the medium that is transmitting these possible factors when there is seemingly nothing in between them?

“Seemingly nothing” is only a description but not the reality, what lies exactly between the earth and moon is time and space. Later you will learn that space is really of no consequence and that the only factor involved is time. To be more precise time dilation of varying degrees lies between the earth and the moon, that is the underlying factor behind gravity. If your mind has been working out the details and you cannot link time dilation to the earth attracting the moon then you can stop pondering that thought. Time dilation does not create an attractive force of gravity it creates a potential energy in objects of mass. That energy induces a force which intern creates motion. It just so happens that the motion of an object is toward the direction of the greatest source of time dilation acting on it from any point around it. The greatest source creates the greatest potential energy which overpowers any other source. Simply put if an atom or object has multiple sources of gravity around it then the strongest time dilation will create the largest force of propulsion and motivate the object to move toward it.

Gravity is more of a natural means of propulsion than an attraction between two objects. The earth isn’t pulling on the moon the moon is reacting to the time dilation of the earth which gives the moon the force to move toward the earth. The moon stays in orbit and doesn’t crash into the earth because the centrifugal force of the orbit equals the amount of force that gravity is inducing within the moon.

That is a basic summary of gravity but before I disassemble the exact process some ground work needs to be done. As a precursor we need to cover in more detail the topics of time dilation and the characteristics and relationship between space and time. You will see how clear and easy defining gravity really is and you will wonder how it could have taken this long to come to this conclusion.

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It took me about 25 years to come to my conclusions about space, time, gravity and the universe. When I look back at it I always enjoyed the process of contemplating the nature of things that in my mind we had no explanation for because the explanations we did have weren’t good enough for me. I enjoyed the thought process and looked at it as a puzzle as well as therapy or a diversion. It involves putting your mind to work on processes much bigger than yourself. Many times as I fall asleep at night I would go over certain pieces of the puzzle in my

mind to see how they functioned and fit together with the other pieces already conjured up in my thoughts. Instead of counting sheep I would imagine the effects of atoms on space to try and figure out how one atom could attract another. I would ponder not only about gravity but of the whole universe and how it functions as well as black-holes and what would be inside of them and more.

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The year 2020 was about to start, I knew I was ready to start writing because I had finally worked out the last piece that was unknown to me, the mechanism of gravity. I figured it out about 8 months prior but as someone with little to no experience with writing a book I didn't know how to put the words down and formulate them into a book. After I got started I knew I had a lot more to learn about writing a book. So that's what I did next by going to where people go to learn things, YouTube. There are plenty of enthusiastic people sharing their knowledge about how to self-publish a book. I learned what I could to get myself started it just took a little longer since I was at the beginning of the process.

In the 25 years I had contemplated about the whole universe and every aspect in it, my first book was a big task, I covered all of my new theories and redefined the entire universe. It is written in a rational and common sense way to explain everything from black-holes, dark matter, to dark energy and last but not least the real actual way the universe is recreated and gets reborn. But since I began a journey I knew nothing about which was writing a book, a vague and general title did little to emphasize what was between the covers. I knew almost immediately or within about a month of publishing it that I needed to take a further step and that was to write another book to highlight the hidden gem that lay hidden inside of my unknown book. I consider my theory of gravity that hidden gem since it's the first of its kind and I believe last in describing the action of gravity accurately. That is the genesis of how this book came to be, explaining that and my thought process may be helpful to you in learning a little more about the journey I took to get here.

Considering that this book is the second writing of this theory of gravity it is a little more fine-tuned in this one than it is in my first book. Going over all of the information multiple times during the writing of a book tends to make the mind pose new ways to see the same thing. It made me see the process of quantum gravity with a little more insight and was then able to describe it better or clearer in this book.

The content in this book such as it is being a new theory of gravity probably should have been submitted to a peer reviewed journal. I asked a well-known physicist who has a channel on YouTube what would be the proper path of action I should take and that's what he suggested. The only problem I found with that

process was the outrageous cost that I would have to pay the journal. It would be a per page cost that if I recall correctly was about $300 per page. Let alone that I would have to write the article and they would own the copyright to it. If it wasn't such a racket I would have followed the advice I was given. I understood the importance of getting my theories out to the public in the right way but in this day and age we have multiple avenues available to us to accomplish the same task. So I chose to write a book for which I own the copyright and the date of publication registers the date of the theories release.

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In this book you will find my theory of quantum gravity along with the various aspects that go along with describing it. It is clear, concise and specific, there will be no leaps you will have to make, and it is spelled out in detail. The mechanism of gravity will not have to be left up to your imagination as Newton suggested. It also won't be confusingly hidden in a description that gravity is not a force as Einstein states. You also will not get an abstract hard to comprehend description like gravity is due to the geodesic curvature of space-time. That in itself is the same as a blank or missing piece of a puzzle. You will learn completely why gravity combines two atoms. Why two atoms will propel themselves toward each other. That is why this book is about "Quantum Gravity".

Time Dilation

This theory of quantum gravity has its origins stemming from the simple characteristic of gravitational time dilation. It produces a varying diminishing field of time from the earth outward. It's odd that its specifically termed "gravitational time dilation" and the connection was never made that it is in fact what causes gravity. We use the earth as an example but any object of mass will do, from a black-hole all the way down to a single atom hence the term "quantum gravity".

You could say for example that "time creates gravity" because time creates gravitational time dilation with gravity being the fundamental action in the universe. That statement should emphasize the fact that time is the single most basic characteristic and foundation underlying everything in the universe.

The path to explaining gravity starts with time dilation then moves on to space and time. That is all that is needed as a precursor to understanding quantum gravity. It is hard to believe that no one has ever put the two together into this rather simple basic explanation of the most basic force in the universe. It took me approximately twenty-five years to end up with this theory. A previous theory I had didn't seem to be conceivable since correlating gravity to space cannot be accomplished. It would have been inaccurate and unable to provide a clear rational step by step look at the process of gravity.

There are two types of time dilation, gravitational time dilation and velocity time dilation. The first is the standard version when any object of mass accumulates more mass thereby increasing the amount of time dilation. Velocity time dilation is when any abject of mass is traveling through space-time and the faster it travels the greater the time dilation becomes. In essence the act of applying energy to an object to increase its speed and velocity adds more stored energy in that object thereby increasing the time dilation.

Another way to look at it is if electrons are orbiting inside of an atom at the speed

of light then they are already at the maximum speed limit. If those atoms start moving through space-time you cannot add that velocity to the speed of light. The speed of the electrons in their orbit will slow by exactly the amount of the added velocity. That slowing is a result of increased time dilation for that atom. For reference sake, that atom is one of many in a spaceship on its way to mars. It's the universes natural law to keep things in equilibrium. The more energy something has as velocity or accumulated mass in which having more atoms means having more energy the slower time traverses for that object.

Time dilation is also the mechanism that maintains the maximum speed limit of the universe, the speed of light at 186,000 miles per second or 300,000 kilometers per second. Time dilation is the key to this universes existence otherwise energy would not coalesce to form atoms. The universe is made up of only time and energy with the law of time dilation being the first and foremost governing action.

The energy that makes up an atom is tremendous, if there was nothing governing it then it may travel at infinite speed from where ever it came from into our universe and back to its origin without us ever even knowing. Imagine a large sphere of space-time and inside that space-time is a speed limit. There is an influx of that infinite energy into the sphere of space-time, positive, negative and neutral energy. As soon as that energy enters it is immediately slowed down to the speed limit by time dilation. The area of space-time surrounding each electron, proton and neutron causes time to slow it down to the speed limit. Because of this now these objects of energy can interact with each other and when they come close enough together the time dilation increases because of their proximity which causes more time dilation and slower time relatively. When they come close enough together their time dilation compounds, when that happens they have slowed down to a point that they can coalesce into an atom.

Every hydrogen atom is formed in this manner from loose elementary particles at the dawn of the birth of our universe. That example is of our universe except for the origin of the infinite energy and how it got to our universe and when since our universe has no beginning and no end in the overall scheme of things. It just transitions in different phases from one universe to another with the raw material from one universe stripped down to build the next. It's safe to say that without time dilation our universe would not form so that is the most important law keeping all energy in check with an iron fist.

Velocity time dilation is similar to gravitational time dilation except that the increase in time dilation is brought on by adding energy in the way of velocity or speed rather than by adding atoms. The reason for this is based on the speed of light limitation or speed limit. When an object is increased in speed the addition of

energy is required and that energy is conserved in that object because of the conservation of energy mechanics. Regardless of the energy being not so easy to measure since it is stored energy it is still there present and inherent in that object. Space and or time still register the energy as elevated when in motion and increases the time dilation in the space-time it is occupying to compensate just the same as if it were a stationary object increasing in mass.

That explanation may be over complicating it, the simple version is that time dilation already governs to keep everything limited to the speed of light. When you add velocity you cannot increase the speed of something more than it is already being limited to. The added velocity doesn't add to the speed of light because time compensates by slowing which is called increased time dilation.

There is a bit of a paradox associated with velocity time dilation. If your spaceship were traveling from one place to another at a slow speed with no time dilation the trip would take a certain amount of time. You would be able to take into account your speed and the distance and estimate your arrival time or trip time. But if you were at a speed high enough for significant time dilation then calculating your arrival time would be off, you would seem to arrive sooner than you calculated. If you accelerate your ship to cause time to slow down it would take less time for your journey even though you took into account your speed and distance because the clock in the ship would tick slower. It would seemingly be a faster trip by suspected magical means, (It would actually take less time relative to you and your consciousness, but not to someone observing your journey).

There is another possibility though and that is you would observe the ship traveling faster than every previous increment of acceleration. The ship would seemingly have more power to go faster every time you increased its speed. Because with every increment the time dilation would also increase and what you see as an increase in speed is really only a slowing of the ships rate of time. I suppose we really won't know until we try it but if we can learn to increase a ships speed by relative means we can avoid the increased time dilation effects at super high velocities.

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If you know of what is said about a photon this should help you understand the process. A photon is said to instantly be created and destroyed from when it's born to when it hits something. It may take a trip through space for a thousand years but its life is but an instant or no time at all. According to current theorists at the speed of light no time passes so technically a photon is created and with no time passing releases its energy as it hits an object. That seems to be the perspective of the photon

but we know a thousand years has passed from our perspective. Does either perspective take precedence over the other? I suppose we look at both perspectives to get a broader view of how things function and or pick the one pertinent to our immediate task.

An interesting side note is that if an object is increased in speed very close to the speed of light it may be theoretically possible to create an artificially produced black-hole. The speed or rate of time has limits, an upper and lower limit, that would not be hard to grasp considering everything has limits. The upper limit for the passage of time is not by coincidence the speed of light. The lower limit is not zero because if it were the universe would not function the way it should or the way it does. The lower limit is somewhere above zero since time cannot, I repeat can never stop in the universe, or, do I have to say it again, it would not exist or continue to exist for obvious reasons.

When an objects time dilation reaches the lower limit at close to the speed of light it reaches a point that is physically impossible to surpass. The fabric of time starts to twist so to speak which transitions the object to become a black-hole. I won't go into the full detail of the process here because it is already in my other book which covers every aspect of black-holes, it was just interesting to discuss since we were on the topic of velocity time dilation and the speed of light.

Most theorists call this an increase in theoretical mass and that is exactly the same thing as the increased time dilation but even though it's a theoretical increase in mass it does have an actual increase in time dilation as long as the object of matter is in motion. Since there is an increase in time dilation when an object is in motion that means there is an actual increase in gravity produced by that object. If the planet earth were to be stationary in space-time and you weighed yourself to be 175 pounds the scale would read more the faster the earth was speeding through the solar system. The faster the earth would travel the more the scale would read and the earth would increase in time dilation as it moves faster and faster. The faster it traveled the more you would weigh because it is increasing in mass and though only considered theoretical it is very real but only just a result of the increased time dilation. Your weight and the mass of the earth would go back to normal the minute the earths speed returns to normal.

That means there is a specific connection between gravity and time dilation and that is because time dilation causes the force of gravity to move objects of mass through space-time. Gravity is not produced by a currently unknown wave or particle that the hunt for is a wild goose chase, what lies between any object of mass is the time dilation each mass produces. That is what spans the distance between them, there is no hidden mechanism, the mechanism is only time dilation and how

an object of mass made of atoms reacts to that field of time dilation. That is a basic proof of the validity of this theory of quantum gravity. Another characteristic that proves the case is the fact that both gravity and time dilation have a similar diminishing effect. The further away from the center of mass you travel such as a planet the lesser the time dilation. Both gravity and time dilation diminish with respect to the inverse square law, for every radius from the center of the planet the effects diminish by the factor of 1 over R squared. It is very obvious there is a connection between them, how could we not have a viable theory of gravity by now, I mean up until now.

Isaac Newton was the one to formulate the inverse square law during his many years of working out a viable theory of gravity. He was so close and would have eventually worked out the theory of gravity if the knowledge of atoms was more complete during his era. In the very least Newton had enough common sense to know and admit that he had come to a dead end in his ability to define gravity further than he had. He followed up his explanation of gravity by leaving it up to the reader's imagination as to how gravity spans the distance between two objects of mass and causes an interaction between them.

Albert Einstein was the first to theorize about the characteristic of time dilation in his "Special Theory of Relativity". He also expanded the view of time dilation and fine-tuned it in his "General Theory of Relativity". It's amazing to wonder how Einstein was able to come to that conclusion even though it seems so far out there. We went from a universe where time was passing at the same rate everywhere to time passing at an individual local rate depending on how close you were to any localized mass or speed you were traveling.

Think of it, the rate of time for the earth is different for the rate of time on a planet far into the center of the galaxy or the other side of the universe. As we see time passing at a normal rate so does the people on that other planet which is why it's called a localized rate of time. Each planet time seems normal relative to the local area they reside. In reality if you compare the two relative to each other time for us is passing at a faster rate or time for the other planet is passing at a slower rate. Time may have a nominal rate of unfolding but with the different concentrations of mass throughout the universe time rarely passes at the same rate anywhere, for the most part most places time passes at different rates. The oldest most ancient parts of the universe are where time is passing at the greatest rate or speed. Those parts are the outer edges of the universe. In a way the newest formed area of the universe is the oldest since time is passing at a much faster rate.

I think Einstein must have gotten the inclination to develop time dilation from Newton's discoveries and theories of gravity and the diminishing effect of it by

virtue of the inverse square law. I think that must have sparked his thoughts to cause him to lean in the direction that lead him to imagine such a fantastic process, the process of time dilation. Even if that is not correct and Einstein used analogies of thought experiments it's fascinating to contemplate the conception of how time dilation came into being.

It's just a shame that he didn't follow through with his thought process to develop a reasonable accurate theory of gravity when he had already taken the biggest first few steps to get there. What I mean is that he created "time dilation" yet he overlooked that as the main contributor of gravity. He linked it to the curvature of space-time instead. He focused his theory of gravity to the curvature of space-time with an abstract mechanism of applying it to how objects attract each other. He may have looked at time dilation as a sort of curvature since its strongest effects are concentrated around objects of mass. But the main constituent of time dilation is of course time, a slowing of time with a diminishing strength as you move away from the mass. There is no bending just a relative counter effect on what we measure as volume and distance. It was a far stretch to connect an attraction of gravity to so called curved space-time.

That may have been the misdirection he took, the assumption that gravity is an attraction process, that objects attract one another. He developed time dilation and the obvious next step would have been to take it a step further to connect time dilation to gravity, the connection being that it causes gravity directly. Even though he did connect it to curved space-time as a reason for gravity that's why I say misstep. He would have had to accept two important factors in the process and they are that gravity is an action of force and it isn't an attraction force, it's a propulsive force. That may have been the difficulty he had and why he opted for an abstract theory in "General Relativity". He started out on the right track and in the process got derailed, but in his defense creating an accurate theory of gravity when none existed previously is not such an easy task. One has to look at the facts and ignore everything else. To look at pieces that are unknown and where they are, where the blank spaces are or where they fit. You can now see the puzzle and the pieces that do fit along with the spaces, now you can extrapolate what should fit in those empty spaces.

I am not trying to diminish the genius of Albert Einstein by putting my theory "out there" into the world because I really only see myself as following up on his work on the mechanism of how gravity functions. I'm rewriting his misdirection towards the path of its intended outcome. I understand it's not an easy task, I've pondered the nature of gravity my whole life and have contemplated periodically specifically on the nature of gravity over the last 25 years. For most of those years I

had it wrong, I kept going over the process to try and explain what I could not explain to make the theory whole but it was an endless cycle.

Eventually I had to look at the process differently and when I started to do that the pieces started to fall into place. It was as though I could see more clearly because I was looking at it from a different perspective or angle. I let go of my preconceived ideas and thoughts about how I thought gravity worked. That allowed me to see what I was trying to do in a new light. It was around the spring of 2019 and I still had to put the theory through its paces in my mind to know if I was on the right track. I had to test the characteristics of the process to see how they interacted with one another in my mind and one by one it cleared each hurdle. There was not one interconnecting piece of the puzzle that did not coincide with another. The new piece I had just created fit perfectly.

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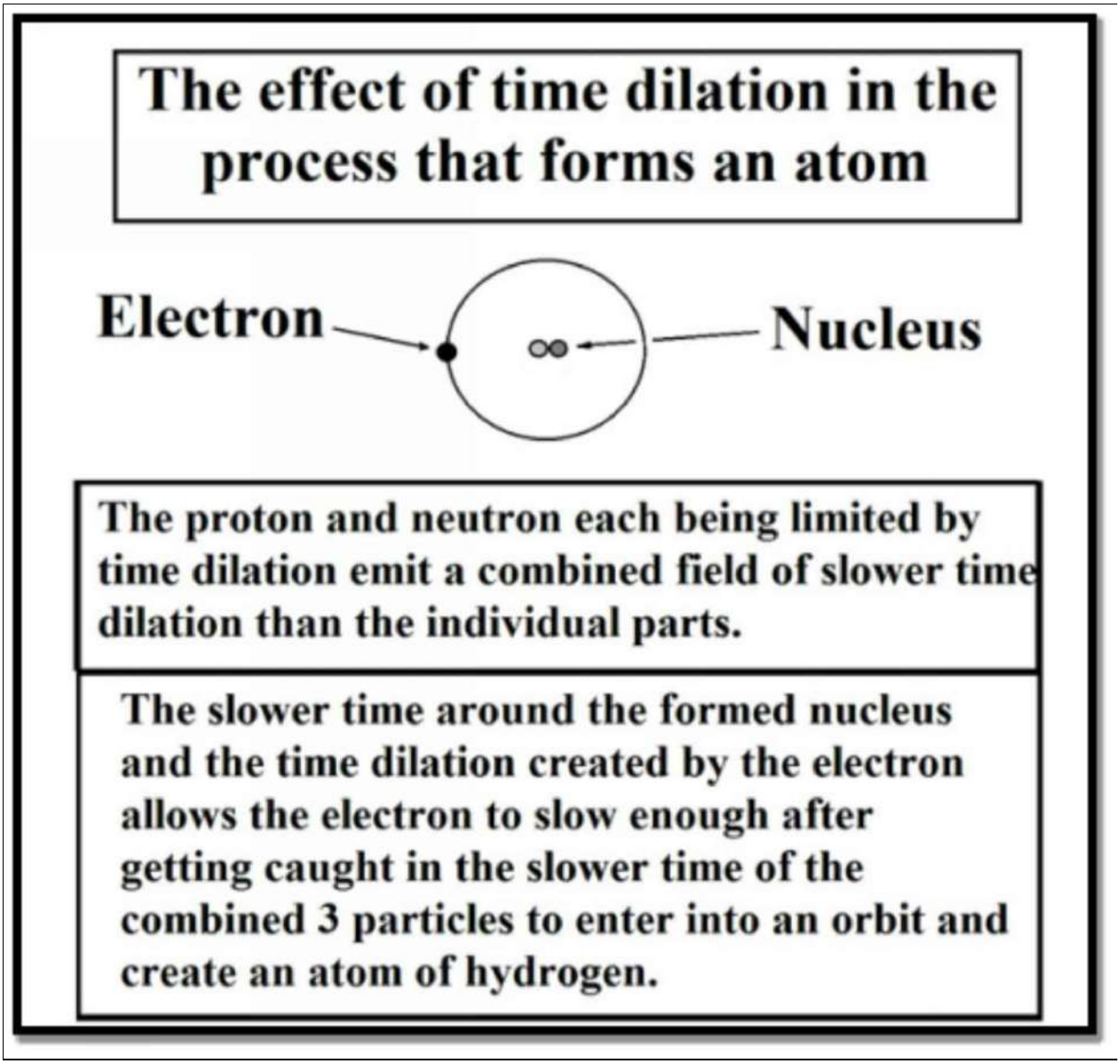
Time dilation has been around now for over a hundred years or known about for that long. It's not a new concept and is universally accepted by the scientific community and scholars because it's well proven. There is a well-known thought experiment that is referred to as "The Twin Paradox". In the story there are a pair of twins of the same age, one stays here on the earth and the other travels to the nearest black-hole and puts the ship into a fast orbit around it. Since a black-hole has massive gravity a very fast orbit is required. That puts the twin under a high amount of time dilation due to the effects of the black-hole and the high speed of the orbit for the combined effects of gravitational and velocity time dilation. The ship only had a year's amount of food to survive so he headed back to earth to meet up with his twin. When he gets back to earth and greets his twin he finds that he has aged and is now twenty years older than him. The story is just a simple way to introduce the concept of time dilation by putting it into a story form so it's easier to understand. Even though it's a simple story it is a fascinating one, I remember watching a public television show when I was a youngster and was fascinated by the concept.

It would be fantastic to see how fast time passes for other areas of the galaxy and universe in real time but that cannot be done. With the nature of light traveling at a speed limit and we are not able to see what's going on far away until years later since it takes that long for the light to get to us. That characteristic that shows us the galaxy and universe as it was many years ago in a way absorbs the different rates that time passes and doesn't show us that. Instead what it shows us are discrepancies, the differing rates of time end up coming through our telescopes as discrepancies that are interpreted as real data by the people doing the looking. That is another thing covered in my other book "The Universe 20/20" in the chapter

about dark matter.

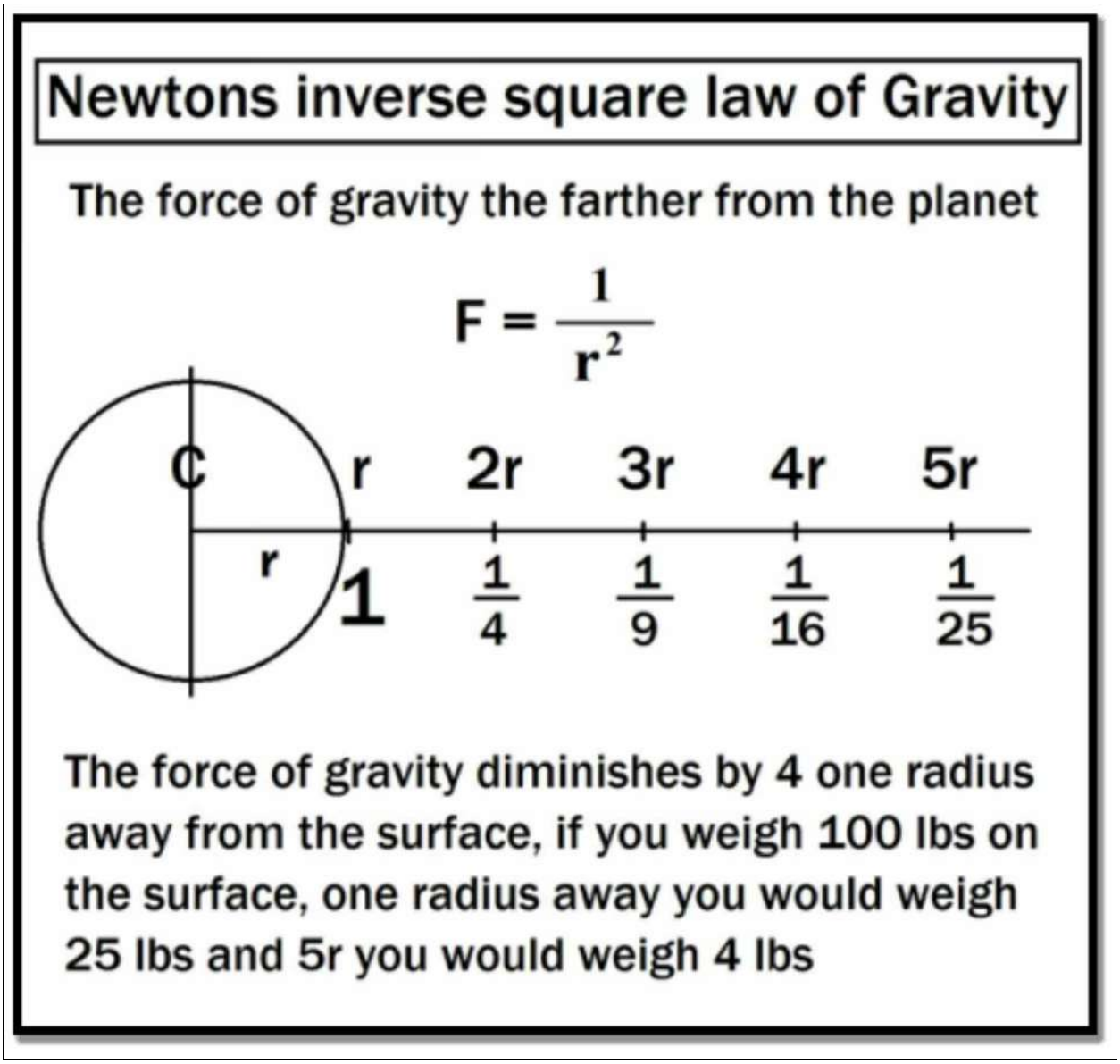
Time dilation in this modern age is well accepted and a proven fact. In the modern air travel age we have today it doesn't show up as any significant change in the passage of time but for orbiting satellites it does. Satellites have a much higher orbit at high speed and the further away from the planet the faster time passes than on the surface. The satellites that provide GPS information must be programmed to eliminate the time difference from their orbit to that on the ground otherwise they would not be accurate and the error would grow and accumulate over time if it weren't fixed automatically. I'm not sure which is affecting them the most, the faster time of a high orbit or the slower time of a high speed velocity, well I guess I'm going back to watch YouTube.

Illustration 1-1; Time Dilation allows an atom to form.


The effect of time dilation in the process that forms an atom
Electron
Nucleus
The proton and neutron each being limited by time dilation emit a combined field of slower time dilation than the individual parts.
The slower time around the formed nucleus and the time dilation created by the electron allows the electron to slow enough after getting caught in the slower time of the combined 3 particles to enter into an orbit and create an atom of hydrogen.

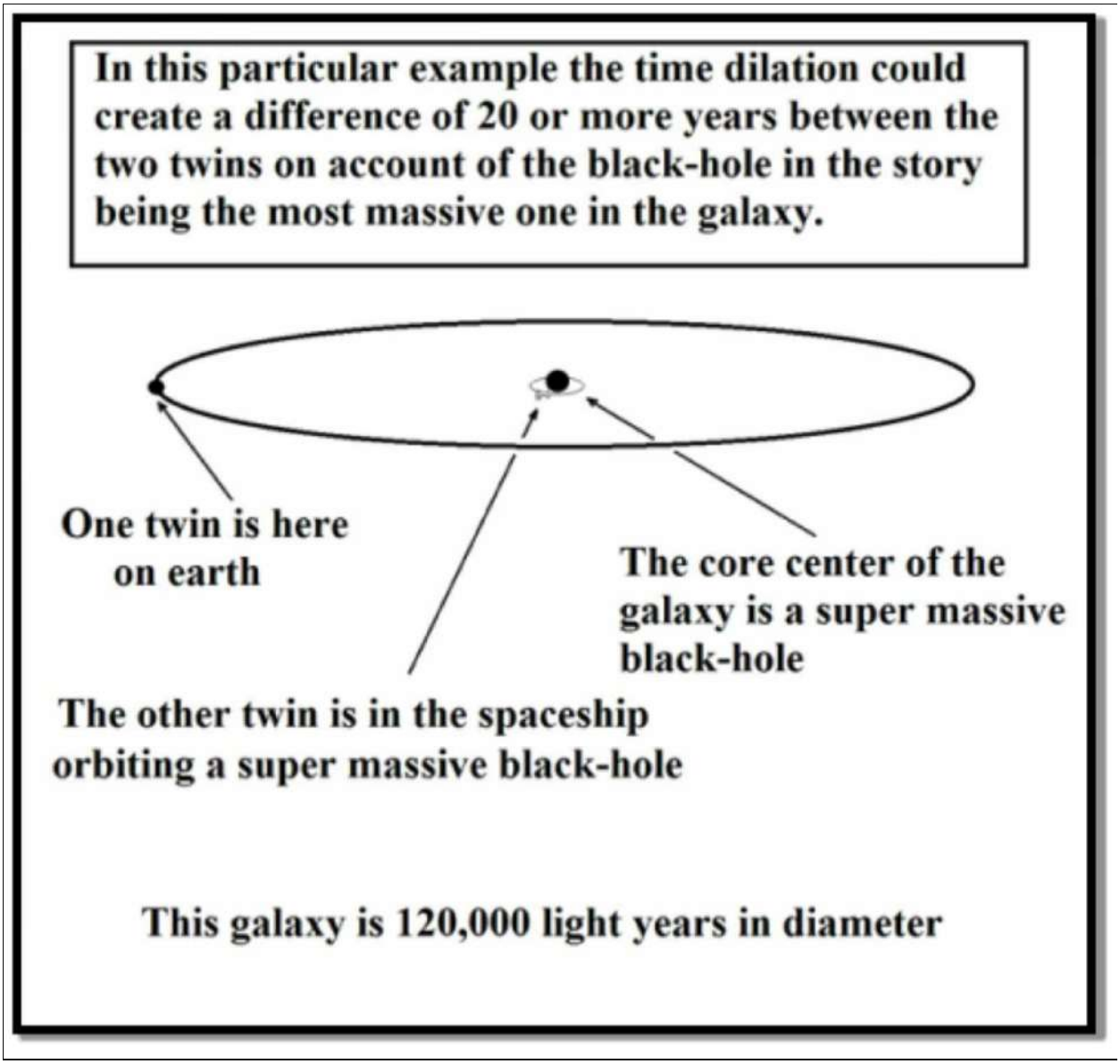
Time dilation governs the speed of everything but also allows atoms to form by compounding the time dilation when an electron, proton and neutron are in close proximity. When those are near to each other the time dilation becomes slower than for each individually. Time slows down to allow them to get caught up in each other's field. It should be of no surprise that the hydrogen atom is the first to be created like this and may be the only atom created like this since more complex atoms are created in stars.

Illustration 1-2; Isaac Newton's inverse square law.


Newtons inverse square law of Gravity
The force of gravity the farther from the planet
$F = \frac{1}{r^2}$
C
r
2r
3r
4r
5r
r
1
1/4
1/9
1/16
1/25
The force of gravity diminishes by 4 one radius away from the surface, if you weigh 100 lbs on the surface, one radius away you would weigh 25 lbs and 5r you would weigh 4 lbs

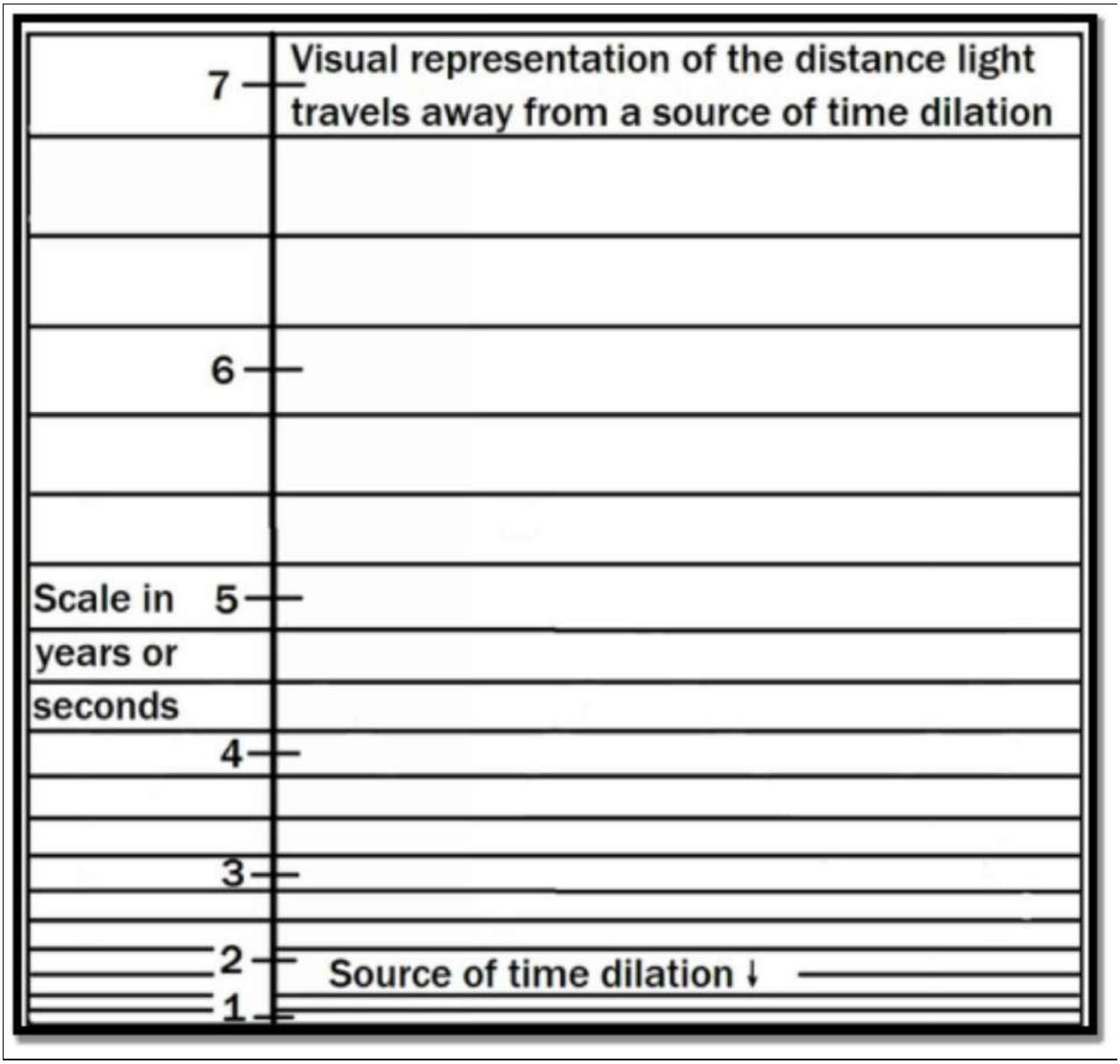
This is a representation of how the force of gravity diminishes over distance from a mass. Coincidentally this may be the same formula used to calculate the rate of time dilation change over distance from a mass. For determining the time dilation that a mass occupies and the diminishing time dilation over distance. Diminishing time dilation equates to an increase in the rate of time. The further from the planet the weaker the time dilation and the further from it the weaker the gravity, basically the two are connected.

Illustration 1-3; The twin paradox.


In this particular example the time dilation could create a difference of 20 or more years between the two twins on account of the black-hole in the story being the most massive one in the galaxy.
One twin is here on earth
The core center of the galaxy is a super massive black-hole
The other twin is in the spaceship orbiting a super massive black-hole
This galaxy is 120,000 light years in diameter

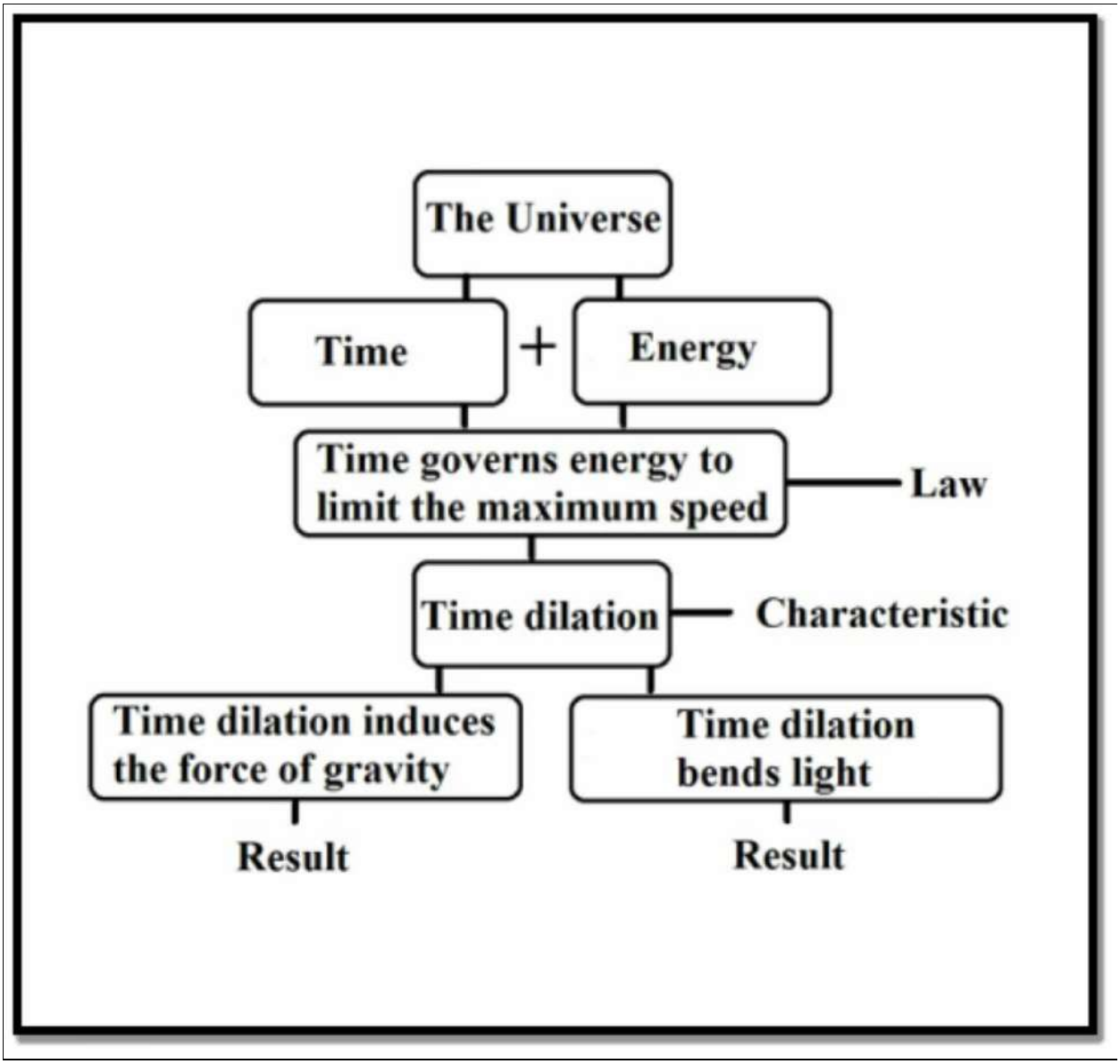
Example of how a large mass will produce a significantly large amount of time dilation which is a slow rate of time. The speed of time is different when comparing the center and the perimeter of the galaxy. A pair of twins with one at each location would age independently of one another. One will grow old if at the perimeter location and the other would age much slower if in an area of high time dilation (slow time) such as near a super massive black-hole. Adding to the time dilation is the velocity of the ship in orbit.

Illustration 1-4; Light traveling away from time dilation.



Time dilation is greatest at the surface of a star, as the light is emitted its relative speed gradually increases. The light after five light seconds has a greater relative speed than after one light second. This is only due to the increase in the rate of time not the actual speed the light is traveling. The speed of light is the same at each point but it is the speed of time creating this relative difference.

Illustration 1-5; Block diagram of time in the universe.



The purpose of this diagram is to show the active role time plays in the universe centering on the law of time to maintain the speed of everything. This allows energy to coalesce into simple hydrogen atoms. The law of time presents itself as the characteristic of time dilation for a mass and velocity of an object. Two results of that are the creation of gravity and the effect of causing light to bend. Gravity doesn't bend light because the effect comes from the base level that creates gravity not gravity itself.

Time and Relative Spatial Dimension

We have always viewed space and time as two separate factors in the universe that is until Einstein combined the two as one and coined the term space-time. Even so not exploring the details makes me think that each exists on its own and can function as individual entities. It's a hard habit to break but just keep in mind that if you affect one you affect the other. After my pondering of the subject during the writing of my first book I've come to the conclusion that space is definitely connected to time but not in the way you would expect. Sure space and time are two sides of the same coin and you can't affect one and not the other. But I've come to the conclusion that space is nothing more than a construct of time. That means time is real and space is determined by the rate of time, which means space is not separate from time it's a part of it instead. When you start focusing on relative spatial dimensions relating to the speed of time you can't help but come to this conclusion.

In my first book I had to work out the details of the regeneration cycle of the universe morphing into the next universe. My thought process was not just focused on one aspect of the universe but a wide range of things in order to get a more complete picture of how things work on a universe size scale. That gave me a range of vision to see more clearly characteristics I never pondered as I worked out the details separately while looking at the universe as a whole which led me to bring these characteristics to light. For example the fact that the universe is made up of only time and energy with space being a part of time and space not being separate or connected but a facet of time. When putting all of the information together into my first book I enjoyed how it taxed my mind to think and to go above and beyond the individual topics to create a broader more complete picture of the universe.

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Space and time have an unbreakable connection and there is a little known

correlation between them. The correlation is that slower time has more spatial dimension than faster time. When large masses form such as a star time will slow for it by means of time dilation in order to regulate it. That time dilation in essence is also giving the mass of the star more spatial dimensions to regulate it. Because when time is slowed down for the mass it is actually gaining more room, there will be more “space” in between each of the atoms. It may be hard to imagine or wrap the mind around so just consider this characteristic a relative nature of space-time.

It’s relative because this is not noticed and we don’t see the universe with different characteristics that are a result of this. We see it basically flat, no characteristic that is created by time dilation shows itself as just that. Because the speed of light is a set speed and the speed of time is also set so any changes in the characteristic of space-time don’t get emphasized, it blends into a “flat” image of the universe. In some cases that gives us false data when we view something and have no way to explain it because we aren’t getting the additional information that’s causing the false image. We look out into the universe and see that picture and believe we are looking at the current universe and we aren’t. We don’t take into account that the universe is sending us the data to make the picture and that data has long since expired or changed. That is only speaking of the time it takes us to receive the data not including differences in the speed of time.

When measuring distances on a very large scale that is done using the speed of light as a unit of measure. The term is called a light year and it’s the distance that light will travel in one year. It’s a unit of time that describes a unit of distance. It also has a correlation to speed as well as distance because it is regulated by time. If you have a given area in space you can measure it with a beam of light. Since we know the distance light will travel in a given amount of time we can determine the dimension of space. Imagine you are looking at a round sphere in space and a laser is triggered to pass from one side to the other. Let’s say it takes one second for the laser beam to make the trip from one side to the other. We already know how fast light travels so we know the sphere is 186,000 miles across or 300,000 kilometers in diameter. Now there is another sphere next to the first and it’s the same size visually. Without any experimentation should we assume we already know what size the sphere is?

When the laser shoots a beam into that sphere it takes five seconds to pass through it. Wait a minute it’s the same size as the first how could it take five seconds? The answer to that is there is a black-hole nearby causing only the second sphere to experience extreme time dilation. The time dilation is slowing the rate of time in the sphere limiting the speed of the laser as it passes through it. They both looked the same from our perspective yet the second circle the laser took five

seconds to pass through. That was five times longer than the first which in turn makes it five times larger. Since the speed of time is a constant and the speed of light is a constant and we use light to measure distance in the sphere it makes the sphere five times the size as the first sphere. The characteristics like that are what make it hard to see the real picture of the universe.

Remember time will slow for a mass, it's a regulatory action. Time is slowing to govern the mass, not the mass causing time to slow. You could say a mass will slow time and it really doesn't change anything. But since time is part of the universes foundation and the mass was created by time in my mind I say it the way I see it. It's a small detail but I suppose it doesn't have a bearing on the process but knowing that time is a governing action may help understand some other aspect of the universe.

Think of time and space as a window screen, the grid you see is time and how close the lines of the grid are together represent space. The metal grid is real and tangible and the spaces in between you wouldn't see if it weren't for the grid of the screen. If you expand the grid you are speeding up time and slowing it when compressing it, it's easier to image if you think of each square to be one light year in distance. When time is slower you can fit more grids into the same space as the faster time giving it relatively more spatial dimension. If you speed it up by expanding it you reduce the amount of spatial grids in an area. I briefly mentioned earlier that the maximum speed of time is the speed of light. If you speed up time to the speed of light you lose spatial dimension because you lose the lines of time that represent space. That is the fastest speed of time possible in this universe, not only does time dilation hold everything to the speed of light, time is also held to that maximum speed.

If you compress the lines of time to show how slow it can represent time then at some point the lines become too close together and you lose what represents space. Because of this you have to imagine that you can compress the lines of the screen together only so far and it still resembles a screen and any further it doesn't. That analogy represents that time can slow down to a certain point but not to zero. In this example a zero rate of time equates to infinite spatial dimension and a rate of time equaling the speed of light represents a zero spatial dimension. If there was a zero speed of time the universe would actually be infinite. That is only a relative characteristic for the energy that exits in the universe though. It can never be said that anything of mass can be in a zero rate of time since that would be like a missing tooth on a gear inside of a clock, the clock would stop and would never run again. If the speed of time reached the speed of light there would be no space between anything, the universe would have no space. That characteristic is most likely to

happen eventually, it likely happens when one universe transitions into another universe. Check out “The Universe 20/20 a new and unique hindsight view” for the complete explanation of it.

Mentioning the point that energy essentially exists in an infinite universe we can go a step further and explain by looking at the characteristics of space-time for a photon traveling at the speed of light. For the photon at the maximum speed possible time for it is zero, not passing, but only because it has no mass, anything that has mass time cannot be the rate of zero. Since time for a photon is in a zero rate of time and slower time equates to larger spatial dimension then you could say that a photon occupies infinite spatial dimension. For the photon the rate of time is zero and its perspective is it exists in an infinite universe. The other way to look at it is if the photon exists in infinite spatial dimension then it exists as something infinitely small. If something is infinitely small then that is another way of saying it doesn’t really exist relatively.

Looking at the photon or the characteristics of light in this way is fascinating and shows the real emphasis that relativity has on things happening out there in the universe that we never really pay too much attention to. By starting to highlight or bring these details to the surface we can start pondering and extrapolating more ways to utilize the natural effects and processes that are all around us. It is these natural processes that are the key to getting off of this earth in order to explore the rest of this solar system. That would be the first order of exploration after we develop the next generation of spaceships, to explore our immediate local vicinity. Then we move towards exploring the outer solar system and next the star systems nearest to us. It’s hard to imagine how long until we get to that point but leaps in technology seem to become exponential as we progress. I will predict that in the next 20 years we will have the beginnings of time dilation propulsion if we start now. By 2050 we should be able to expect regular travel to mars and beyond with bases on multiple planets and moons. If we have steady interest in these endeavors we may get to our neighboring star system alpha century by the year 2121. I won’t be around to see that but I’ll put that on my gravestone, alpha century or bust by 2121 and I’ll be there in spirit.

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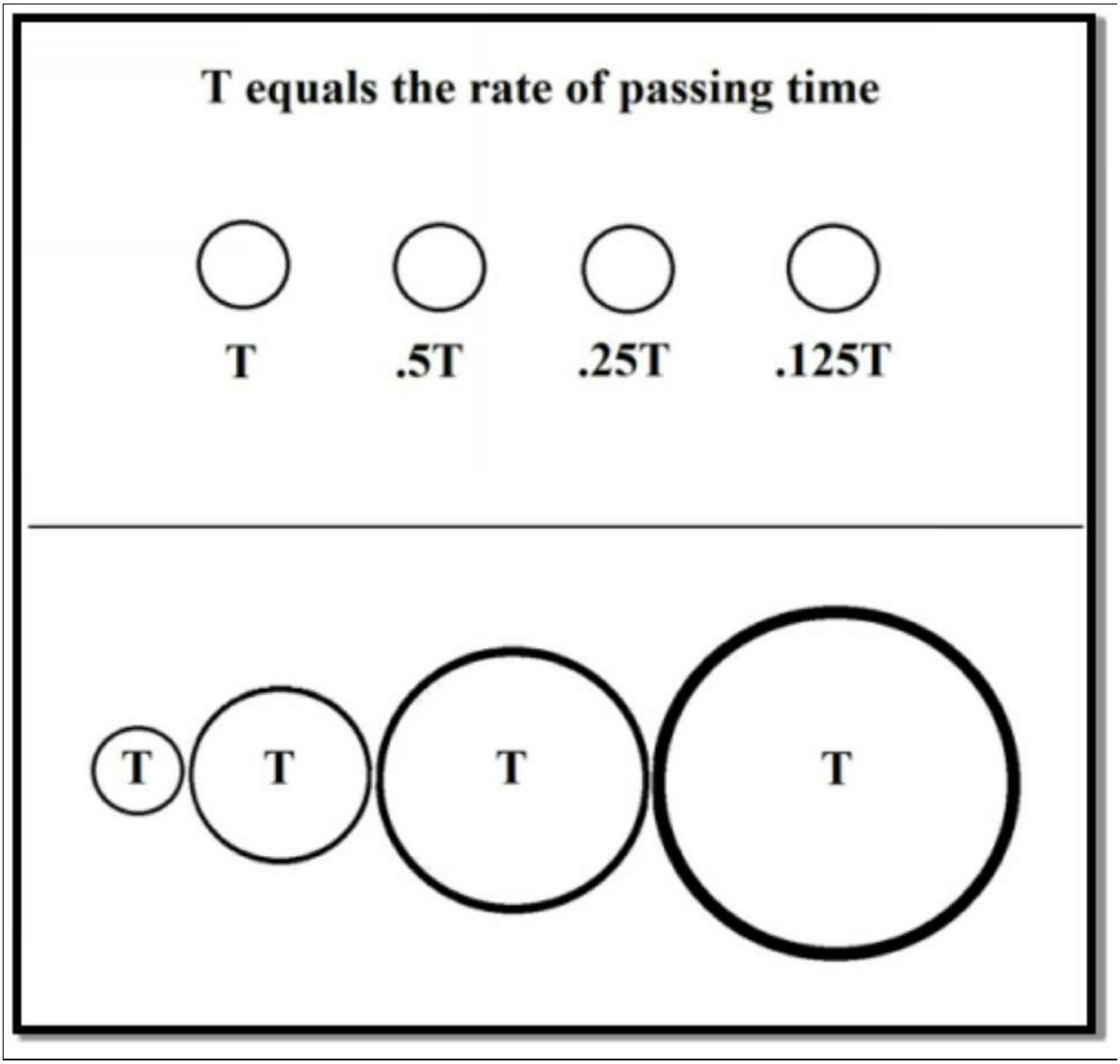
In a galaxy the most time dilation is located in the center region from the center to about a third of the distance out. In that area time is much slower than anywhere else in the galaxy. That slowed time as I mentioned makes the light take longer for us to receive it as well as gives it more spatial dimension. We look at the galaxy and see an image and what we do not see is the slower time in the center region that represents larger space. It’s a common misconception unless you know how to

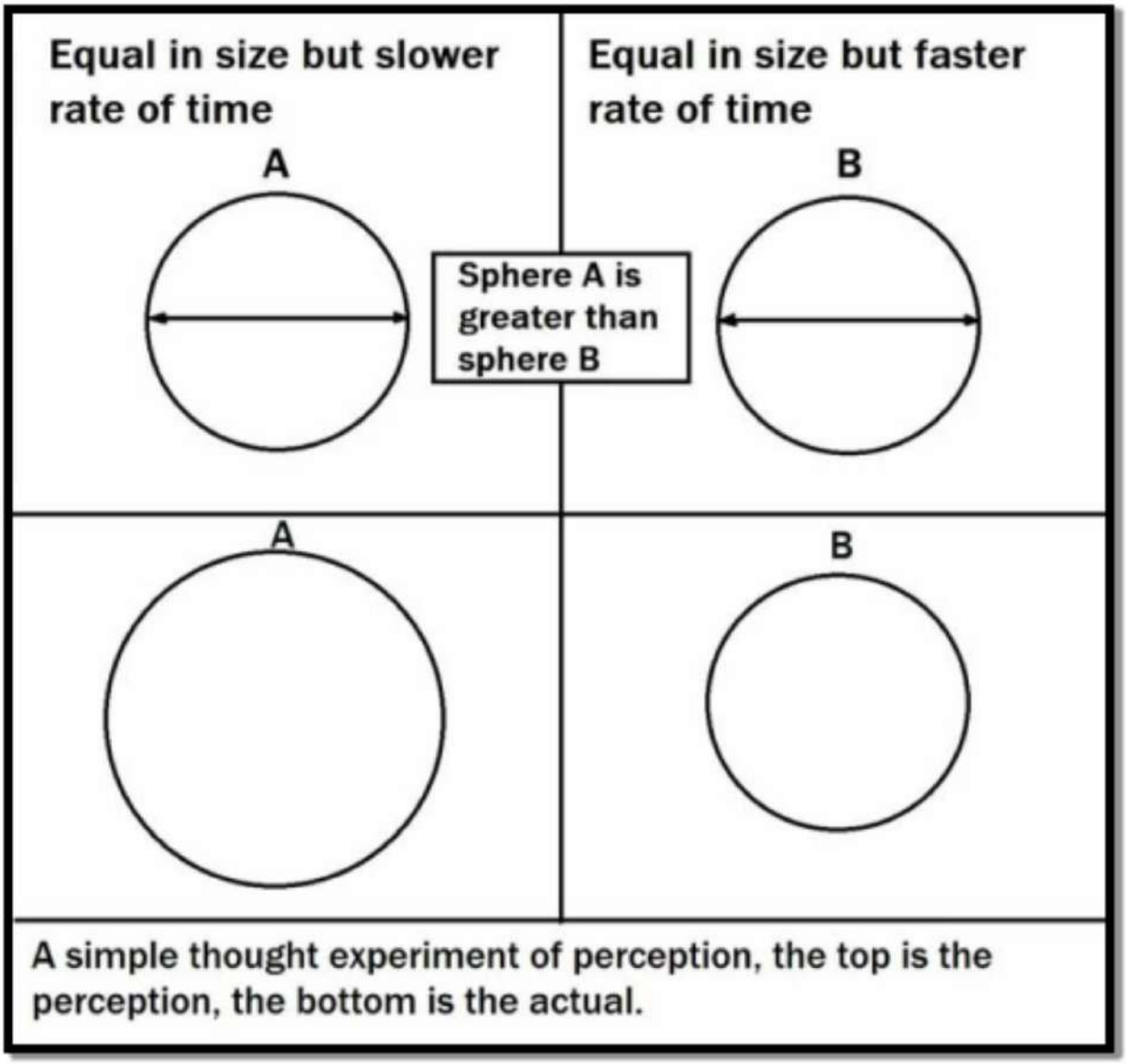
interpret the data or information into an actual picture. In a galaxy the center region is where time is the slowest and slow time equates to larger spatial dimensions. It’s interesting that there could be more space than what we see, larger where it’s supposed to be smaller and smaller where it’s supposed to be larger. The universe acts in the same way making it much more fascinating to ponder.

Illustration 2-1; Relative spatial dimension verses time.



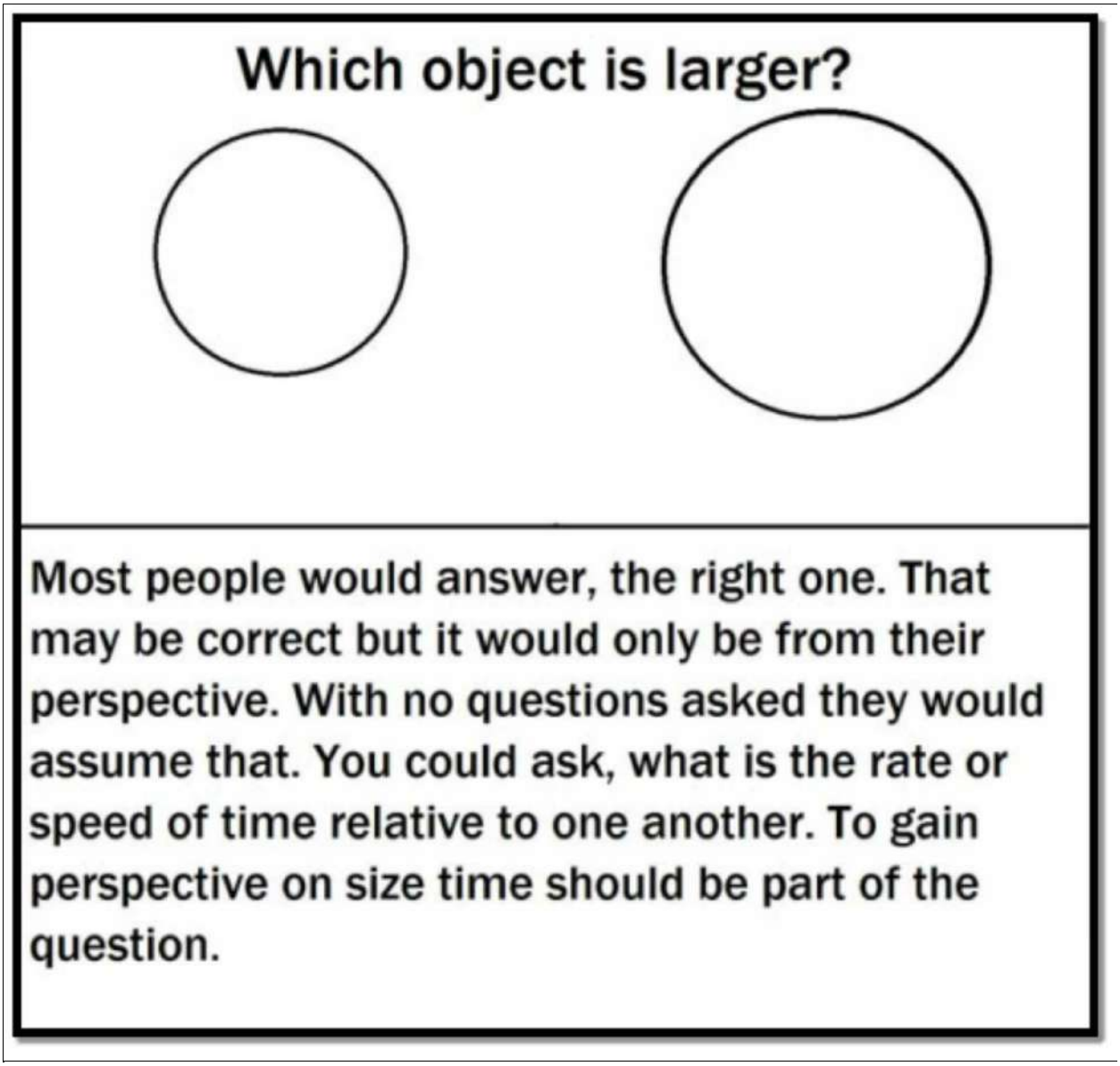
This is a simple example of relative spatial dimension relative to the rate of time. Viewing an area of space without knowing the rate of passing time it is difficult to correctly measure the area for space or distance. As the universe expands the rate of time at the perimeter could be increasing creating a relative lesser spatial distance. As it expands it could be getting smaller around the outside than on the inner portion, which is something hard to wrap the mind around because it goes against normal physical properties.

Illustration 2-2; Space-time perception.


Equal in size but slower rate of time
Equal in size but faster rate of time
A
B
Sphere A is greater than sphere B
A
B
A simple thought experiment of perception, the top is the perception, the bottom is the actual.

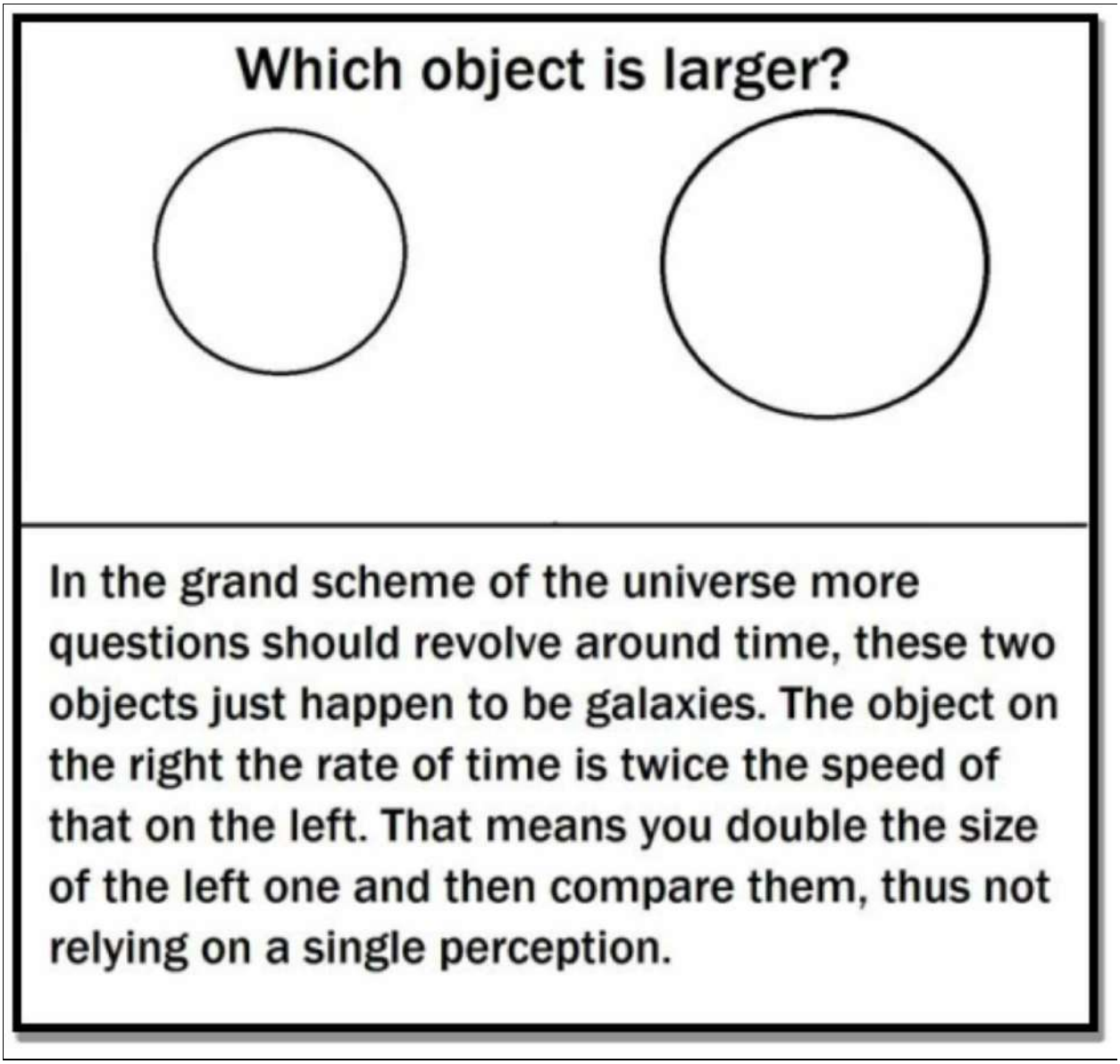
Perceived space is relative to the rate of time. When the rate of time is slower the perceived space is smaller and the actual space is larger. When the rate of time is faster the perceived space is larger and the actual space is smaller. We know that black-holes exert a huge gravitational field around it in the form of time dilation which creates a slower rate of time. Therefore the spatial dimension at the event horizon is the largest and it decreases as you move away from it. Any massive gravity source also creates a large pocket of space.

Illustration 2-3; Space-time thought experiment, part 1.


Which object is larger?
Most people would answer, the right one. That may be correct but it would only be from their perspective. With no questions asked they would assume that. You could ask, what is the rate or speed of time relative to one another. To gain perspective on size time should be part of the question.

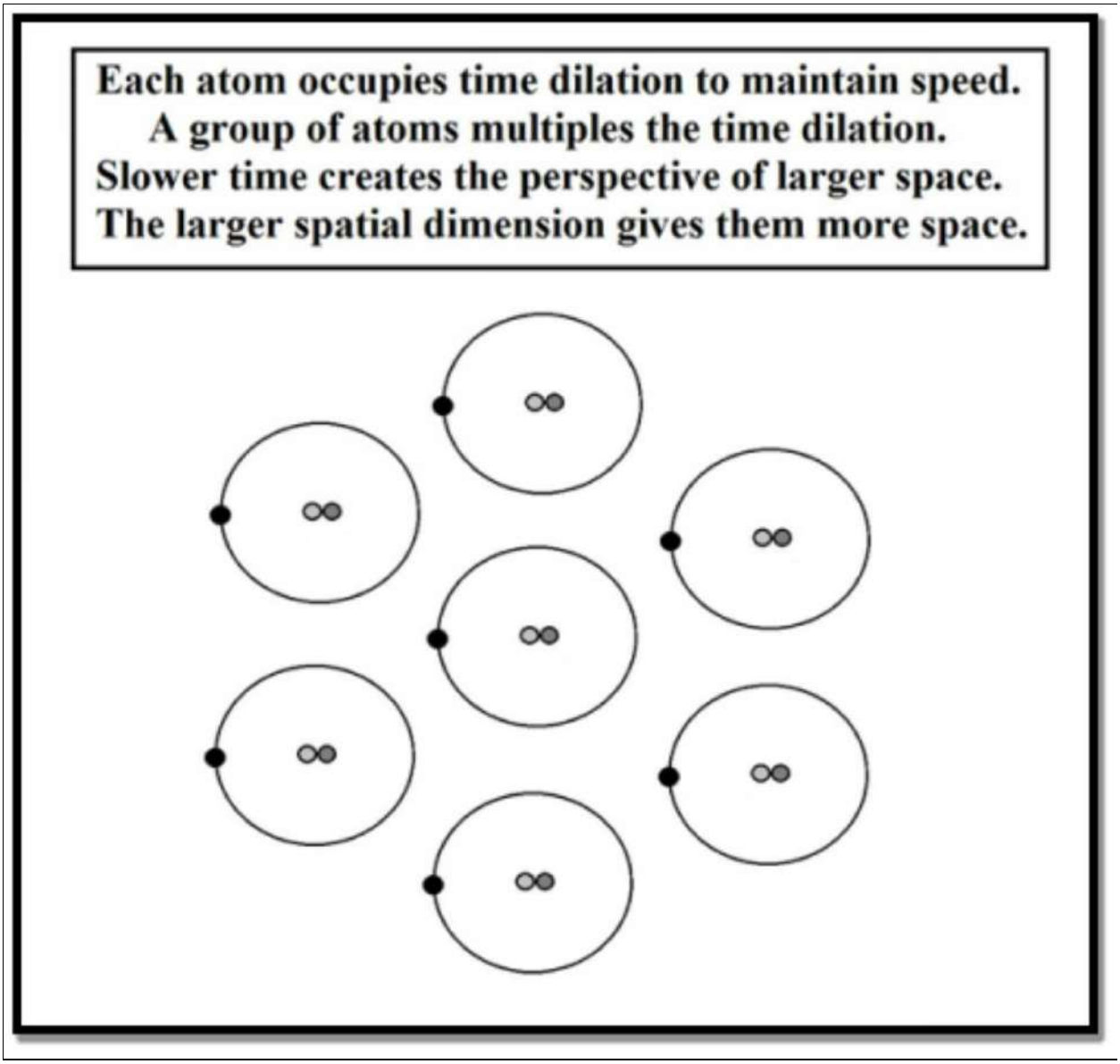
This is a simple thought exercise of space, time and perspective. It is designed to ask more questions in order to determine what is true compared to what is perceived. With Einstein's special theory of relativity space and time are relative and can be very different at one location relative to another.

Illustration 2-4; Space-time thought experiment, part 2.


Which object is larger?
In the grand scheme of the universe more questions should revolve around time, these two objects just happen to be galaxies. The object on the right the rate of time is twice the speed of that on the left. That means you double the size of the left one and then compare them, thus not relying on a single perception.

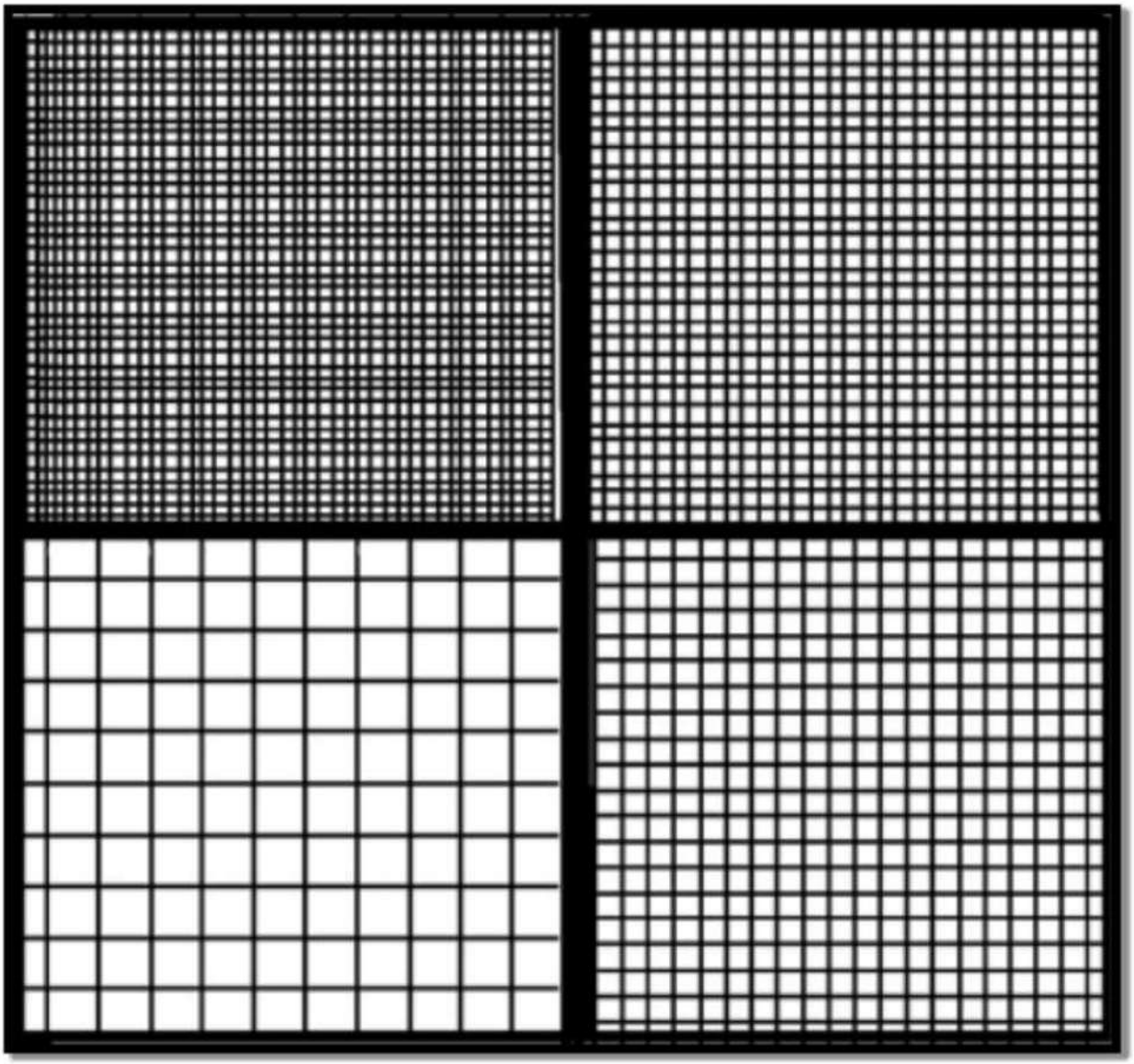
More information is given in this picture in order to comprehend what is real. When observing something very large such as a galaxy the differences in time are much more pronounced than in our local environment. We take that for granted and assume those characteristics are insignificant everywhere else which leads to misunderstandings about what is factual and what is perceived. It leads to receiving false data and then to assumptions and finally to false theories.

Illustration 2-5; Compounding time dilation.


Each atom occupies time dilation to maintain speed.
A group of atoms multiples the time dilation.
Slower time creates the perspective of larger space.
The larger spatial dimension gives them more space.

Time governs matter to a specific speed, this is called time dilation, and time will slow down for matter in the area it occupies. The larger amount of matter in an area will compound the amount of time dilation, time will slow further. The slower the rate of time the greater the perspective spatial area thus giving the matter more perspective space to keep the power of the atom in a mass of atoms in check or simply making more room for them.

Illustration 2-6; Analogy of time verses spatial dimension.



This shows the lines of time, the closer together the slower the speed of time. From top left CW each section increases the speed of time X 2. Each square unit in any of the sections is one light year. Time is only expressed by the lines but you still perceive what is seen as space. When time is slower there is more space. You visually see the same amount of space in each section but by virtue of the rate of time there is four times the space in the upper left than the bottom right.

Quantum Gravity

Gravity at the quantum level that explains how two atoms interact and gravitate towards each other is not a secondary form of gravity. There is no need for a main gravity theory and a quantum gravity theory because quantum gravity is the one and only function of how gravity works between any two objects of mass. There is no need to create a modified theory of gravity such as a MOND theory to explain away certain characteristics in the universe that don't fit into a standard theory of gravity. The reason a modified theory of gravity would be spawned is due to the factors that make it necessary to create one have no basis in fact. I'm saying that certain main cosmological theories that exist today only exist because they haven't been disproven but also haven't technically been proven. They simply exist as placeholders to fill in the wide gaps until something more tangible comes along to span all of the missing pieces and connect things together. When a main theory of the universe gets accepted by society it tends to stay excepted even if it is wrong. It stays accepted until proven wrong even if it's impossible to prove it wrong.

The main theories I'm referring to are the big bang theory and the theory of dark matter and dark energy. As a side note it goes without saying that parts of the theory of general relativity need to be redefined, replaced or simply preserved as they are for the sake of ancient history. If the big bang theory were correct there would be no need for dark energy, so one false theory creates another. All three of those falsities make it necessary to fudge a theory of gravity into a MOND theory of gravity. My quantum theory of gravity explains the forces between two objects of mass from two atoms to black-holes to a galaxy rotating and to the entire universe.

My first book on the subject explained in detail the real mechanisms behind how the universe functions. It should be of no surprise that time is the main governor of the universe and any explanation of it will be based on time as the main constituent. I mentioned in it that the universe consists of only time and energy. This book is designed to explain the theory of quantum gravity which is created by time, time

dilation to be precise. This book is also covering other aspects of quantum gravity and related characteristics that are connected to it. I already covered the entire universe previously and only touch on it here and there in this book. If you find this book thought provoking and interesting you may like “The Universe 20/20, A New and Unique Hindsight View” that was published a year ago in 2020.

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This theory of quantum gravity came about while I was trying to rationalize how an atom would create an attraction to another atom through the medium of space. I looked at the process in a step by step way and I could not get the process to function without making giant leaps that left a lot of specifics unknown. A quality theory of gravity or anything should have nothing left unknown or left to the imagination to fill in any gaps. I continued to work on this problem in my thoughts and mind and eventually gave up on the attraction via space connection. I could not conceive of any possible way that an atom could grab or pull on space. That forced me to look at other ways the process of gravity could be manifesting itself between two objects. I thought to myself what else exists between every atom or object of mass, what connects them that can transmit the process of gravity. I started to focus on time dilation as a means to connect one mass to another, I pondered how that process would function. Even though it was a big moment for me I only have a vague recollection of conceiving the process of how gravity works. I remember it felt like a serendipity moment and was excited to have finally figured it out but I still had to put it through the wringer in my mind to make sure it was viable.

I figured out that time dilation between two atoms which is diminishing exponentially causes a potential force to be created in an atom by the opposing atoms time dilation. Since an atom is occupying the others field of time dilation and it is diminishing in strength the atom is in a differential time field. When an atom occupies an area of space-time that transitions from slow to an increasingly faster rate the electrons speed will vary in their orbit as they pass through the slower and faster time. The electrons speed will be slower in their orbit on the side of the atom where it is closest to the gravitational field (the strongest time dilation). Also their speed will be faster on the side of the atom that is opposite because it has a faster rate of time and facing away from the source of time dilation. This causes a difference in speed of the orbiting electrons thereby creating the potential difference in energy or force. That force is directed towards what is creating the time dilation that is inducing it. Even though the electron is always spinning at the same speed technically, by reason of perspective and the atom being a unit as a whole it reacts to the potential energy caused by the difference in the speed of time.

The electron will always be moving at the speed of light while orbiting through

the slower and faster time of time dilation relative to itself. Relativity plays a part here because even though the electron has a set speed whether in slow or fast time it is the relative speed of it that causes a potential energy within the atom. In the slower time the electron is moving at the speed of light just like it is in the faster time. In the faster time it is moving faster relatively so that gives the electron a higher relative speed than in the slower time. That higher relative speed is perceived by the atom as a whole as a greater potential energy on the side of faster time which induces a force on that side. In the field of the atom any differences in the field affect the whole atom which creates a potential energy within it. The differences created by time dilation affect the atom in a real way even though they are only relative differences.

The same thing happens to the atom as anything else you apply a force to the side of, it starts moving. Since the force is applied to the side in faster time then the atom or object will move towards the source creating the time dilation or towards the direction of the slower time dilation. I go into more detail about relative speeds in the section of quantum gravity propulsion. Check out the illustration at the end of that section that shows the relative speeds of light as it emanates from a star.

The potential force that is induced is a propulsive force and not an attraction mechanism so the atom will be propelled towards the other atom and vice versa. The atom does not sense the other atom it only reacts to the field of time dilation it is occupying. You could say it is reacting to the other atom by reason of its time dilation and since the atom has no senses it is just being propelled through the universe by the currents of time dilation. Gravity is just a matter of potential energy which tells an atom which direction to move.

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When you first started reading this book you read about time dilation because that is directly responsible for creating quantum gravity. You also read about time and relative spatial dimension which is also a characteristic of quantum gravity. Because in a gravitational field of time dilation the speed of time varies and so does the relative spatial dimension that the atom is occupying. If time is slower on one side of the atom and faster on the opposite side then according to the characteristics involved the slow side has a greater spatial dimension. The fast side has a lesser spatial dimension and using the nucleus as the nominal center point it would technically no longer be in the direct center while in a gravitational field. There would be two aspects of relativity associated with quantum gravity, the relative speed of the electron in its orbit and the relative spatial dimension inside the area of the atom.

There would be more space from the nucleus to the electron orbit in the slower time and less space from the nucleus to the electron orbit in the faster time. That would clearly place the nucleus off center while existing in a gravitational field. If the nucleus has an electron spinning at a closer orbit in the faster rate of time then it should hold more energy being in a closer orbit. When an electron is closer to the nucleus it has more energy because it must move faster but it is at a set speed therefore it simply has a higher potential energy than any electron orbit on the slower side of the atom. The slow side and fast side are referring to the rate or speed of time caused by the time dilation from the object creating the gravitational field.

It may not be necessary to equate that tighter electron orbit to an actual creation of a higher potential energy. The fact that the electron has a higher relative speed in the faster time may be enough to consider it the main factor creating the potential energy that induces the force of motion. It may also be a significant characteristic adding to the force induced in the atom. It was just worth mentioning and is certainly possible it could add to the potential difference of energy within the atom. The relative spatial difference inside of the atom in a gravitational field may be more of a characteristic than a factor. With the factors being only the relative speed of the electrons orbit as a result of time dilation and the relative speed of the electrons orbit in proximity to the nucleus.

In space-time when there is no gravitational field there is no time dilation. With no time dilation then the atom has equal rates of time and spatial dimension at all points from the center outward. No time dilation means that the speed of time is the same throughout the inside structure of the atom and that means the spatial distances are also equal. That places the nucleus in the direct center of the atom. The electrons spin at a uniform rate around the nucleus. That creates a relative and perspective neutral potential energy in the atom as a whole.

If an object of mass were to pass by then for a short time that neutral environment that the atom was experiencing would change. The atom would have a slow buildup of potential energy as the mass nears and it would begin to move in its direction as it approaches. Then as the mass passes the atom would then reverse course, induce a spin and start moving in the opposite direction to follow the mass. Another possibility would be that the force induced in the atom from one direction would be cancelled when the object passes and only the spin would remain. That was simply a thought exercise because I don’t think there is anything in the universe that is technically stationary. I don’t think there ever was or will be something stationary. The universe is in constant motion in the never ending process that gravity is in charge of to propel all matter into higher concentrations.

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It was a big revelation to me that the force created in an atom that is considered gravity is a propulsive force. It is easy to see why all of this time and all of history we saw it as an attraction process. When we see an apple fall from a tree we only see the apple in motion from the tree to the ground. From that perspective of being on the earth we see the apple falling toward us as though the earth is attracting it downward. The earth doesn't move so we assume the earth is attracting the apple. If we were to climb the tree and look down at the apples and see one fall then it is moving away from us therefore changing the perspective of the thought process. If we had gotten another perspective on the phenomenon of gravity our understanding may have taken another path. If Newton had simply climbed his apple tree to get a second perspective of the same phenomenon then he wouldn't have concluded that it was strictly an attraction.

If we were to go into outer space and place two apples a foot apart and observe what happens we would see the apples move toward each other equally. With that information we could say that the apples attracted each other. But also given that information we could deduce that the apples simply moved toward each other and were propelled to do so in some way. The act of conducting this experiment would leave us with two possible causes for gravitation rather than an assumed one cause. If we had those two choices to pick from throughout history then when we ran out of possible ways to rationalize gravity as an attraction then we would have moved on to working it out as a propulsion. It's a shame we got side tracked for so long because we never got past the initial assumption.

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This theory of quantum gravity specifically centers on the force that is created in an atom by a potential energy difference induced by time dilation. This thought process is a continuation of Sir Isaac Newton's philosophies on the subject matter. Even though Einstein's theory of gravity supposedly over-turned Newton's I find that my theory of quantum gravity does somewhat agree or parallel Einstein's description of gravity. I know that my theory of gravity is for the most part different in major ways. But for those who cannot let go of general relativity I will try to bridge the two theories by explaining a possible similarity they may have.

Einstein's theory of how gravity is created is a function of the geodesic curvature of space time. I find that space doesn't interact with matter in any way shape or form. So my analogy for curved space-time would simply be time dilation. To leave space out of the description since it has no bearing on anything. If you look at the universe with only time in between everything and varying in its rate according to the matter occupying it then you can understand it better. Around all objects of matter there are different concentrations of time. Use the window screen example to

imagine how the universe should look if only viewing it from the perspective of time.

All of those concentrations and curves of time are what direct light to bend similar to curved space-time but only done by varying time dilation. It's not a geodesic curving of space but an actual curving of "time" as a result of an object of mass. That's what I consider time dilation to be, a curving of time and that's all. Light isn't following a path through space and traveling in a straight line and bending because an object bends space. Light can be described to bend passing through time dilation. It's a viable and rational explanation in the following section.

The similarities with the geodesic curvature of space-time and time dilation are limited. They are fundamentally different but close enough so that you can see my point. It's a narrow bridge but enough of a connection to aide in the thought process. The fact that general relativity describes gravity as not being a force is something I cannot bridge across. My theory of gravity is definitely described as a force created inside of the atoms of an object and general relativity is definitely describing gravity as not being a force. There is no bridging those two philosophies together.

General relativity only took precedence after Sir Arthur Eddington confirmed that light bends traveling past the sun. He did that during an expedition to Brazil in 1919 to photograph a full solar eclipse. Considering that then hold your opinion until after you read the next section. I easily explain how and why light bends on account of time dilation as it passes objects of mass. That is ironic because time dilation is a result of Einstein's genius and he should have easily connected that to the creation of gravity.

I suppose we will have to leave it up to historians to figure out what Einstein was thinking at the time. A task for them to figure out his thought process as he transitioned from special relativity to finalize general relativity. As he started general relativity he widened the view of time dilation by adding the characteristic of gravitational time dilation. If he had followed up on that in a straight line he would have gone directly to quantum gravity but took a detour instead focusing on the geodesic curving of space-time to describe gravity. But that being said I would say that my theory of quantum gravity is a direct result of both Newton and Einstein's genius. Without their contributions I wouldn't be sitting here writing about this new theory of gravity. I consider it to be a continuation of both of their efforts to describe gravity except for the fact that I define it as propulsion and not an attraction.

I will try to connect gravity to an actual force using a few basic equations that involve the force of gravity. If the connections don't fully paint a picture then that is

no better than tying space to the creation of force so I'm ok with that. They are force equals mass times acceleration (F=m x a), momentum equals mass times velocity (P=m x v) and the acceleration rate of a falling object at a nominal height of 32 feet per sec ^{2} . Normal force may be easier to use since it seems to combine force and the acceleration due to gravity (F normal= m x g) with m as mass and g being acceleration due to gravity.

It goes without saying that the end result of gravity is force. Force is why a meteor creates a crater when it impacts the moon. Force is directly related to the objects mass and how fast it's moving because it's related to velocity and acceleration. Momentum is also related to force if you interchange velocity for acceleration. When a meteor is falling gravity is applying a constant force to it which is why it's accelerating every second. The meteor is adding to its speed every second it's falling so gravity is a constant force being applied. Even when an object is on the ground a constant force is being applied, that force is always "on". That is why an object rests on the ground because the force of gravity is pushing it toward the ground.

On the ground it's still under the force of gravity which is why it has a weight on a scale. You feel the weight of your body on your feet constantly. If you jumped off of a chair for an instant your feet would have no force upon them but then an increased force when you landed on the floor. The amount of force added would be related to how long you were in midair. Instead of a constant force on your feet it would deviate to zero momentarily then spike after hitting the floor and go back to the rest value. When you're falling all of the force being applied is being stored in your mass as velocity or momentum, you become like a falling battery being charged on the way down. What is stored in a falling object will be instantly released when it hits the ground. When an object is falling at 32 feet per sec ^{2} it means it will increase its rate of fall 32 feet for every second that passes. That's the same as a rocket lifting off, it speeds up every second that the engine is producing thrust. That's the same thing as gravity because a meteor is being propelled toward the earth by gravity as propulsion. It is also increasing its speed every second its propulsion is "on". With a meteor or any object gravity propulsion is always on even after it hits the earth, the propulsion force of gravity doesn't shut off which is why the meteor is stuck on the earth.

So far everywhere I've tried to dispute general relativity I've been referring to the aspect of it that that refers to how it affects an object in space. How it moves a meteor and brings it toward the earth. I just don't like the way an abstract theory has taken hold to explain real factors and phenomenon. I've made so much emphasis on that part of general relativity that I completely overlooked the explanation it gives to

objects at rest on the surface of earth. I don't know how I could have overlooked it because it seems so unlikely. I've added an illustration to compare the way GR and this theory of QG explains gravity for at rest on the earth state.

This theory of quantum gravity states the same for an object being propelled to the earth as the object at rest on the surface of earth. The difference is that the object is storing the force of gravity while it's on the way down to earth. It doesn't have a force upon it until it impacts which then it feels or releases all of the stored force. Then after it's at rest it feels the force because the force of gravity is still being produced in it propelling it down toward the earth. The object still exists in the time dilation field of the earth which means that it is still producing a propelling force downward within all of the atoms that the object consists of.

The explanation general relativity uses to explain why an object is resting on the earth is a far cry from a satisfactory explanation. To make it short and sweet it basically states that the object is at rest (total rest) and it's held onto the earth because the earth is accelerating upward through space-time at 32 feet/sec ^{2} . That las statement should say it all for the validity of GR because of how unlikely it sounds. In my opinion you cannot equate real characteristics of gravity with thought experiments such as with the equivalence principle. Not all of Einstein's equivalence principles explanations hold true.

I should stipulate that I use the foundation of general relativity for the concept of gravity I propose in this book. I agree with parts of it but not all of it like the end result of how gravity functions. After all Einstein's formulation of gravitational and velocity time dilation as a base for his theory is of course on track. He simply got derailed when trying to equate that to gravity. He is human and capable of error once in a while. After all he is a genius for the special theory of relativity as well as the aspect of time dilation and I have great admiration for him. He spent ten years working on GR and no doubt had a hard time of it.

Working out a theory of gravitation was like trying to assemble the most difficult puzzle there could be. It's like putting a puzzle together that has no picture on it and no borders. You have to try to link the pieces together without knowing what the pieces are or where they fit. I think Einstein ended up designing general relativity as an abstract representation for all parts of explaining gravity because he was under the impression he had to explain it as an attraction. That and I'm sure he felt the eyes of the world on him watching him struggle on trying to work out gravity. Because of his high esteem he may have felt that way and didn't realize the world would still love him if he figured out gravity or not. That could have been his thought process relative to his point of view.

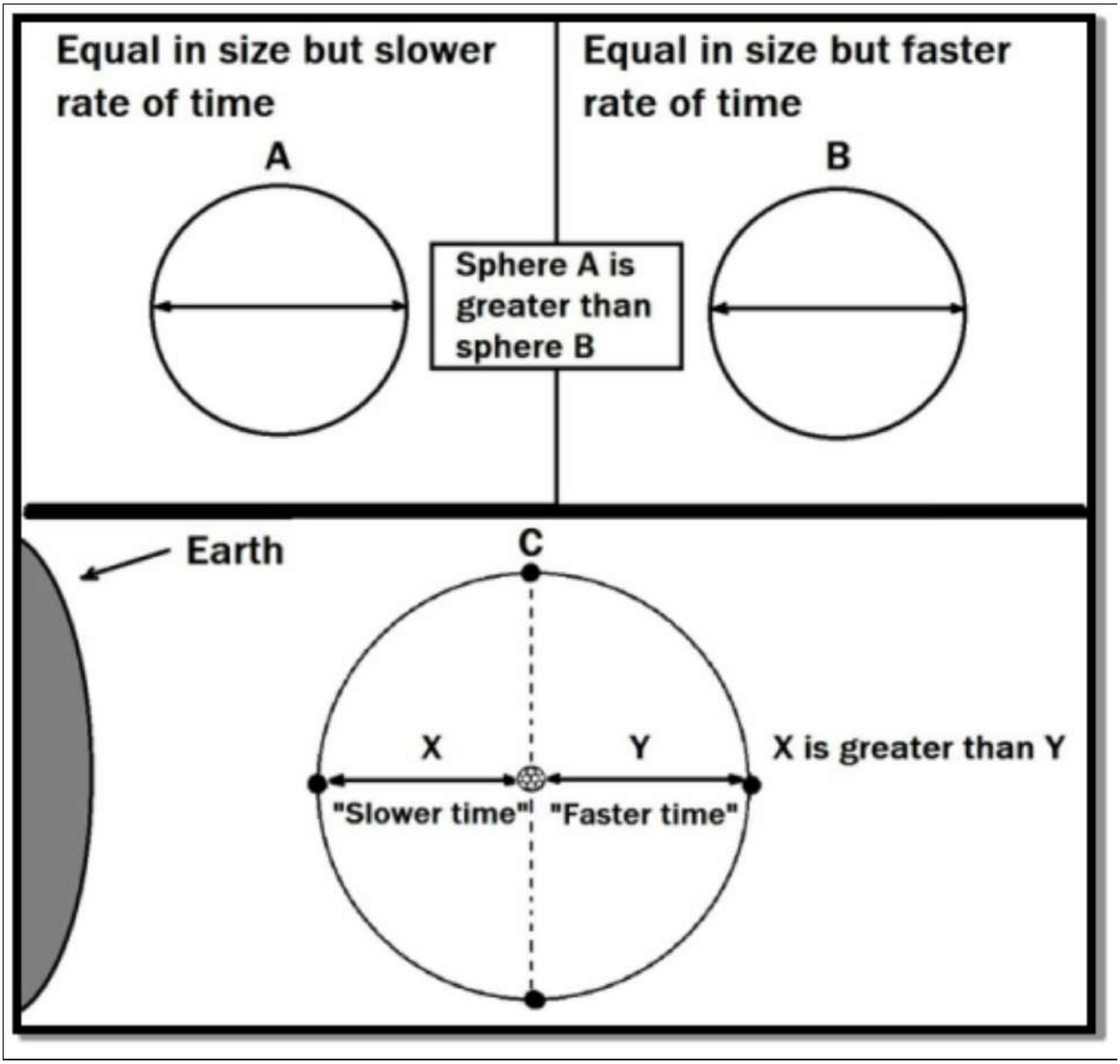
This book is not an attempt to diminish Einstein's contribution to science. I've explained that my theory uses his special relativity and gravitational time dilation as the basis for my theory of quantum gravity. Quantum gravity is created from time dilation and the relativity in the electrons orbit creates a potential energy difference in the atom. I've tried to bridge the gap between GR and QG for the sake of people unable to accept anything other than GR. But such an abstract theory as general relativity is it should have never taken such a strong hold on the minds of scientists. I suppose it was on account of special relativity's tremendous impact on the scientific community as though it were ahead of its time. I believe that tended to skew acceptance of anything after that towards Einstein's favor.

The fact that an abstract theory of gravity took hold is probably not too hard to accept. It was a new concept and is also interesting even though it's wrong. If I were to theorize a new abstract concept for gravity such as God creates gravity I would be correct. Though I would only be correct in the context that God creates everything therefore he also creates gravity. That would be more correct than general relativity even though they are both abstract and a matter of faith. There is just no way to link the force created in a meteor impact back to how that force was created by the geodesic curvature of space. But it is very easy to link it to the induced force created in all of the atoms of the meteor by the time dilation created by the earth. I cannot get past the fact that an abstract theory passes all scientific tests for it to be accepted so it's really just a matter of opinion.

It would be interesting to see if general relativity would pass the test and hold up in the court of law. A mock trial at a law school could be set up to pit two lawyers against each other, one to prove the validity of GR and one to disprove it. It would have to be supported by facts and those facts should connect to each other. If an unbroken line of facts can be created then GR wins, but that's a big if. I don't believe the facts support it let alone can be arranged in an unbroken line laid out to prove it as a viable concept. If you believe gravitational lensing will prove GR then you would be wrong. Gravity doesn't bend light and or the geodesic curvature of space-time doesn't bend it either, time dilation bends light.

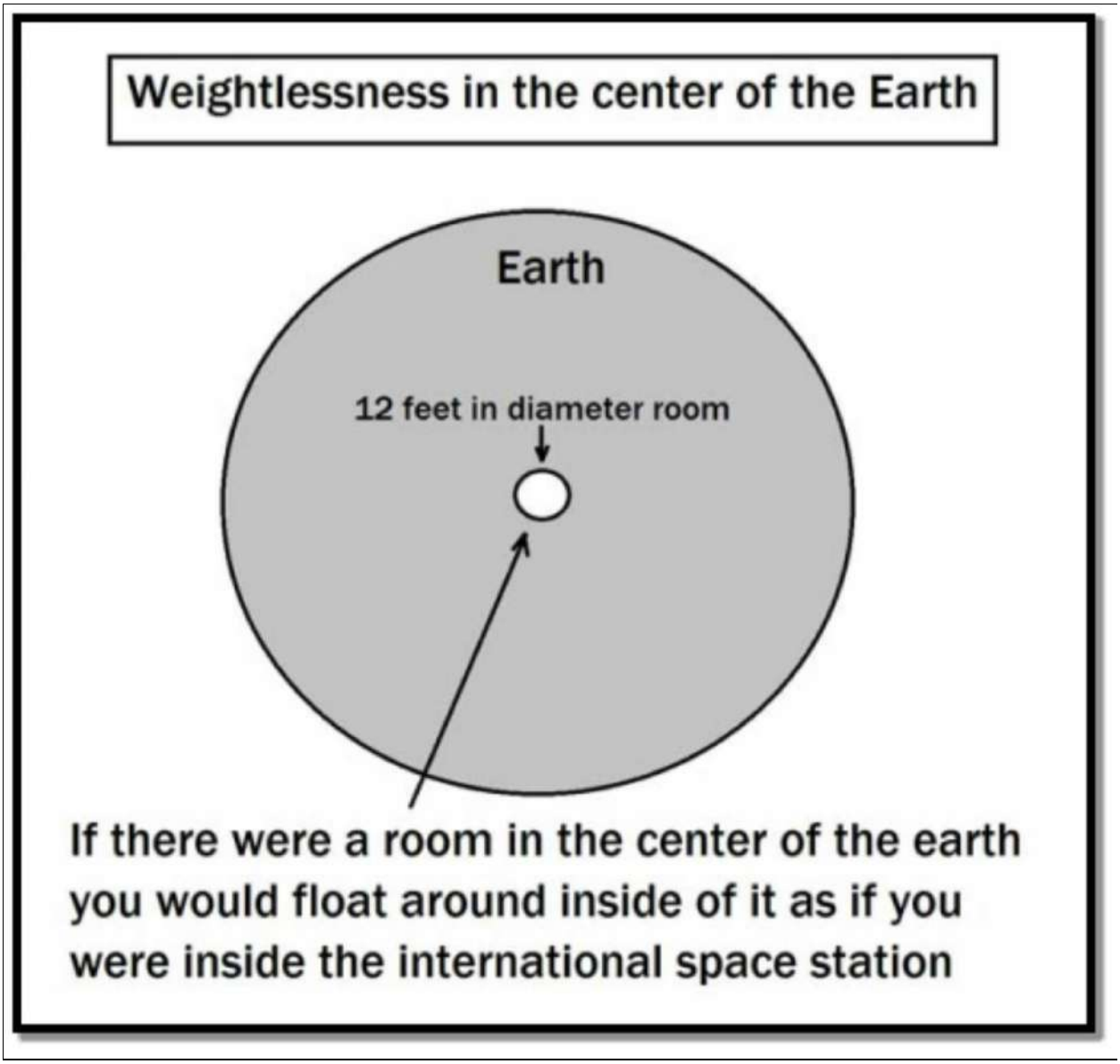
Since this section is the most important one in this book I will conclude it with this. Quantum gravity is spawned directly from Albert Einstein's own theories of gravitational time dilation and relativity. Those are the base or core philosophies that quantum gravity here is based on. In a way Einstein developed the path to quantum gravity that is a conclusion to Sir Isaac Newton's theory of gravity. Even if it functions differently by propelling objects rather than attracting them, which may just be a matter of a view point. Einstein's theories which initially disputed Newton's in the end were the foundation to complete a Newtonian theory of gravity.

Illustration 3-1; Space-time perspective in time dilation.



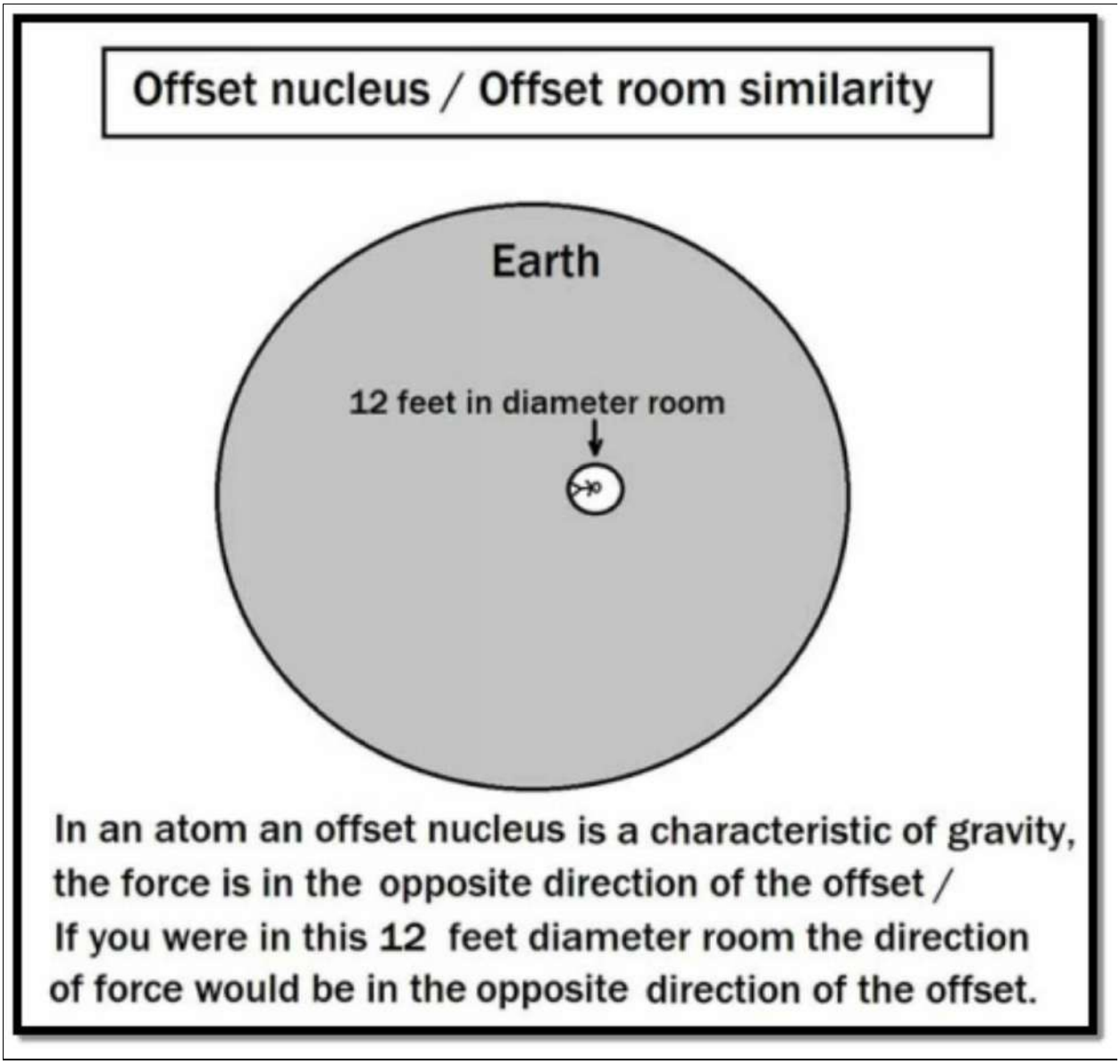
The top half of this drawling shows a correlation to relative space and distance in relation to the rate or speed of time. The bottom half shows how that effect plays out inside an atom while under the effect of time dilation. The electron will have the same speed relative to itself as it orbits. But in the faster time verses the slower time it will have a higher relative velocity. The higher relative velocity equates to a higher potential energy causing the atom to be propelled toward the object creating the time dilation.

Illustration 3-2; Weightless in the center of the Earth.


Weightlessness in the center of the Earth
Earth
12 feet in diameter room
If there were a room in the center of the earth you would float around inside of it as if you were inside the international space station

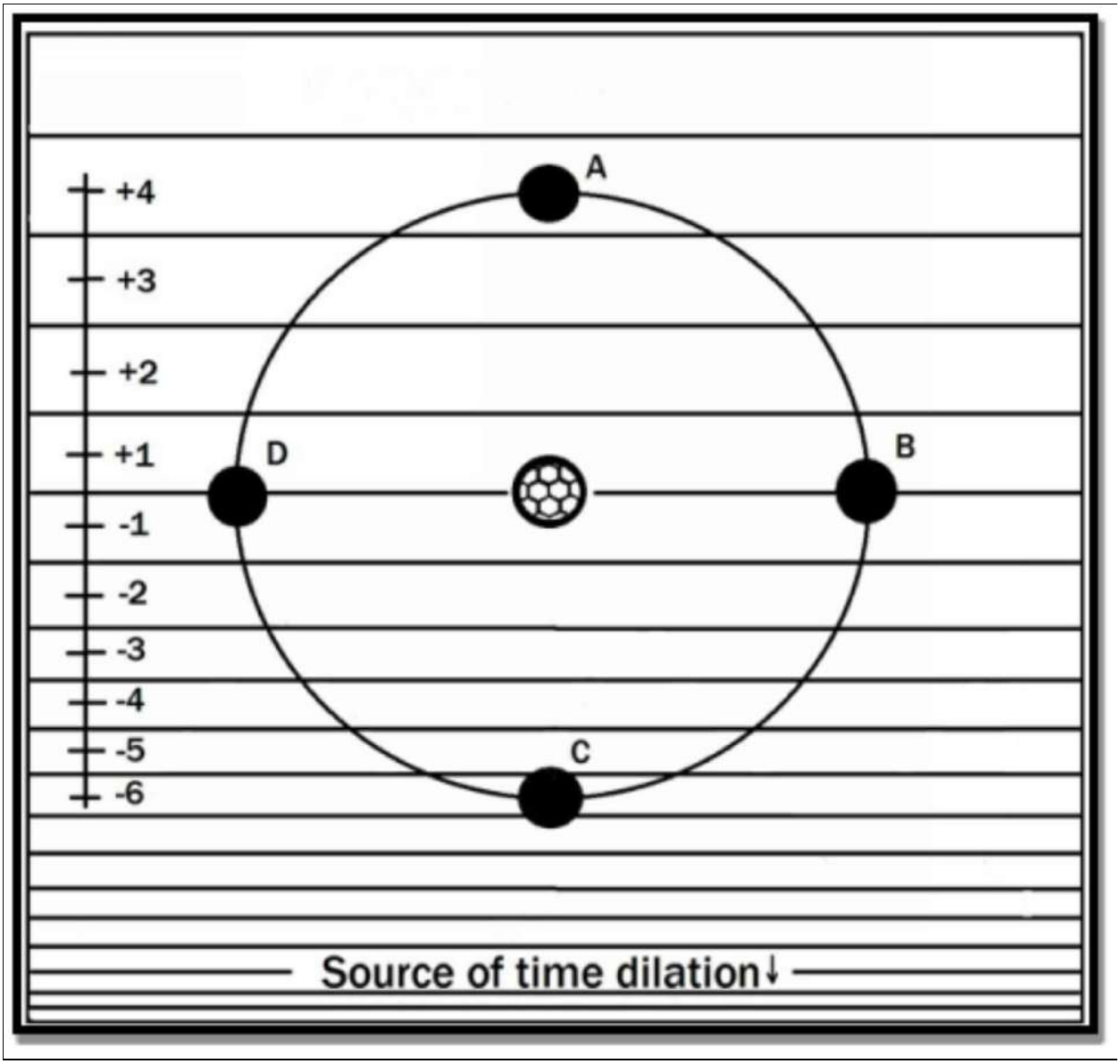
In the room in the center of the earth the force of gravity from all directions cancels each other out creating neutral or zero gravity. The time dilation of the earth is still there but there is no imbalance of time in the room, the rate of time is the same everywhere in the room. The orbital spin of the electrons in your body would have no deviation in the speed of time therefore there would be no potential energy created to propel you towards any side of the room, you would be weightless.

Illustration 3-3; Room offset from the center of the earth.


Offset nucleus / Offset room similarity
Earth
12 feet in diameter room
In an atom an offset nucleus is a characteristic of gravity,
the force is in the opposite direction of the offset /
If you were in this 12 feet diameter room the direction
of force would be in the opposite direction of the offset.

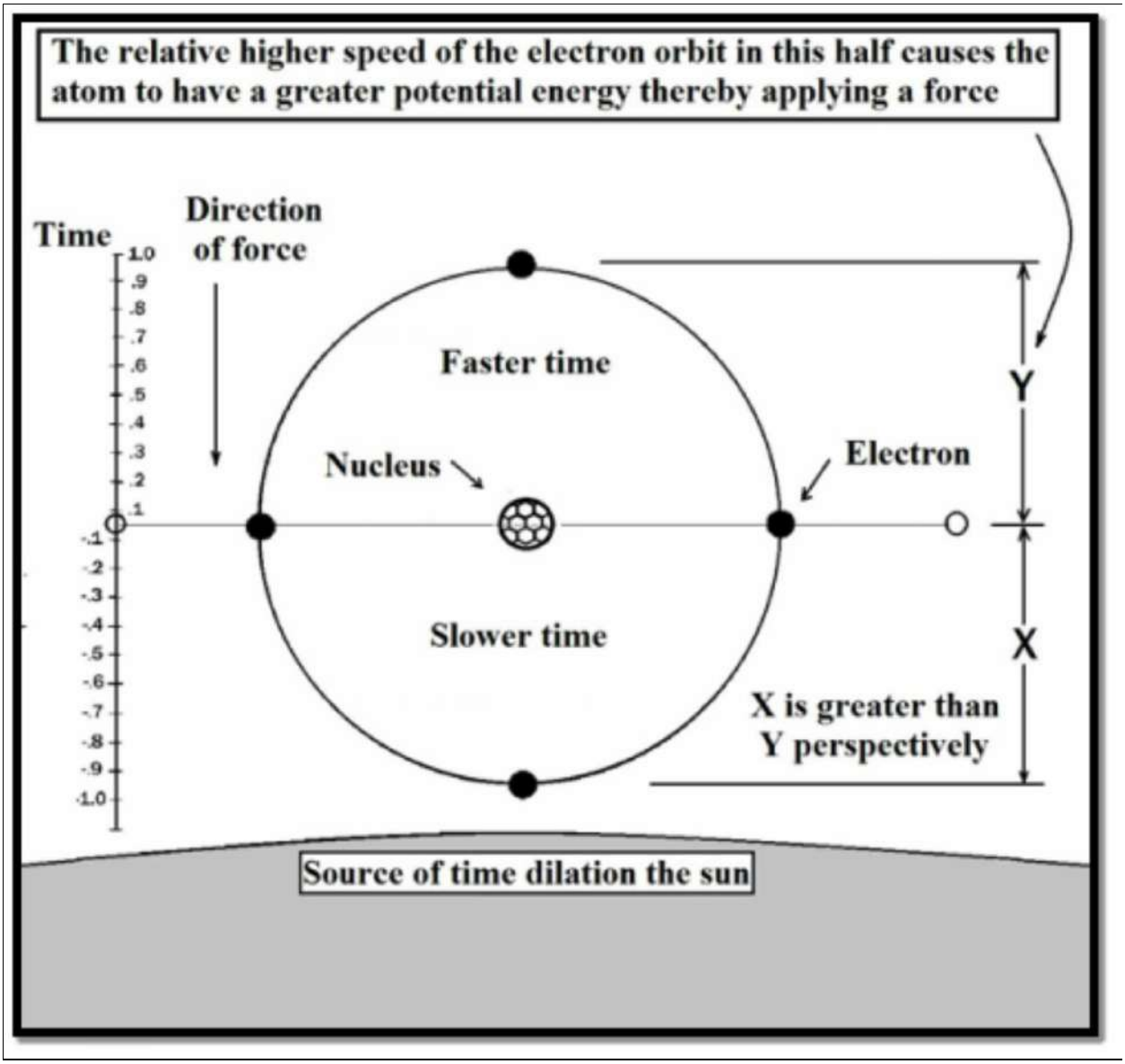
This illustration shows a similarity of an offset nucleus in an atom in a gravity field and direction of force in that atom and also in a room offset from the center of the earth. The offset would make the left side have higher time dilation making that the floor. The similarity is that this would be how the atom would be pictured with an offset nucleus and the force on the atom would propel it towards the left side also.

Illustration 3-4; Simple atom in time dilation.



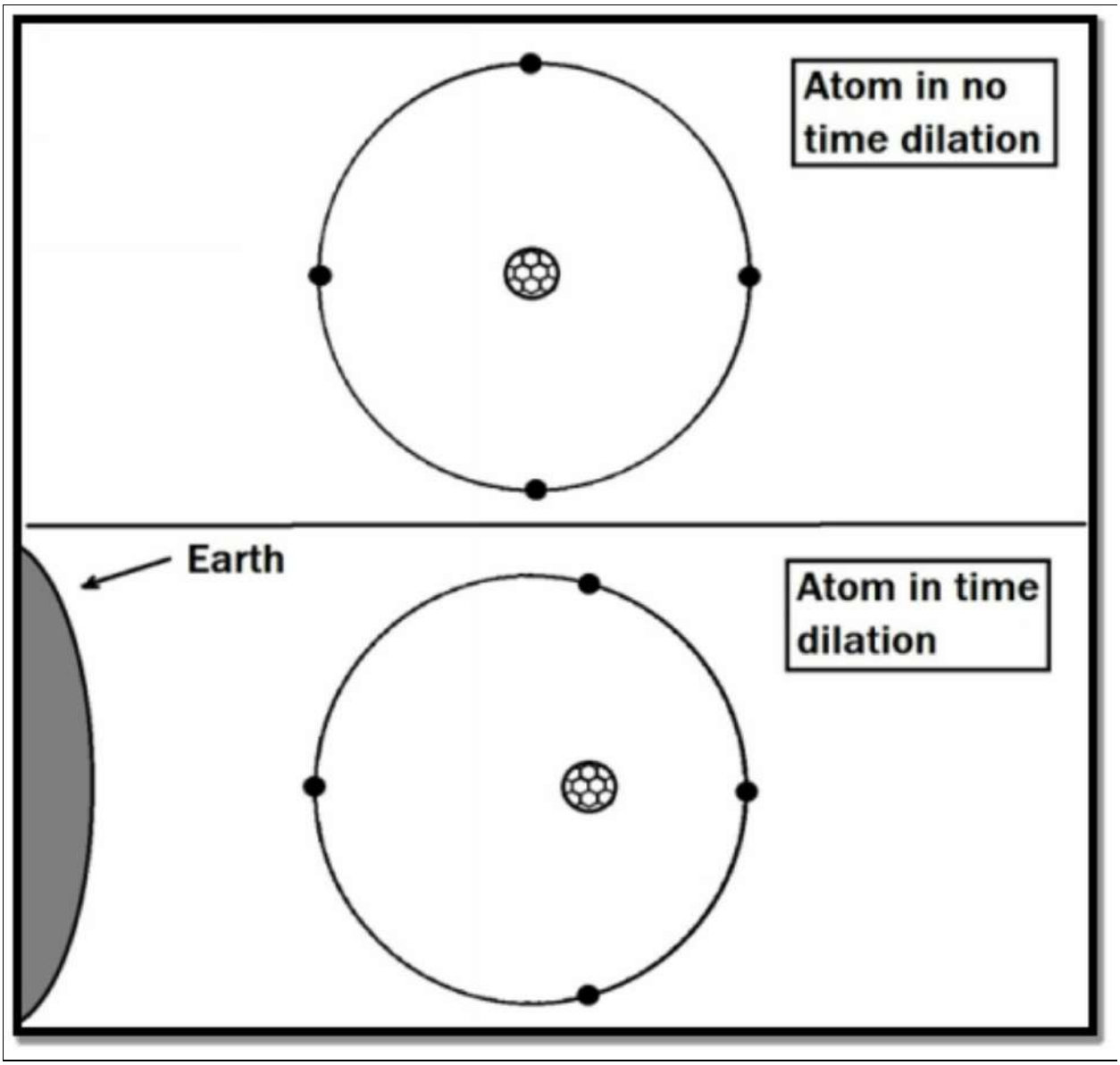
This is a simple example of an atom in time dilation with the time dilation nearest the source having more compact lines of time. They equate to a greater spatial distance in the atom in the slower rate of time. A slow rate of time seems to take on the effect of compressing space or giving an area more space. Space and time are proportional in that way. Slow down time and you have more space, speed up time and you have less space.

Illustration 3-5; Time dilation creating a force in an atom.


The relative higher speed of the electron orbit in this half causes the atom to have a greater potential energy thereby applying a force
Time
Direction of force
Faster time
Nucleus
Electron
Y
X
Slower time
X is greater than Y perspectively
Source of time dilation the sun

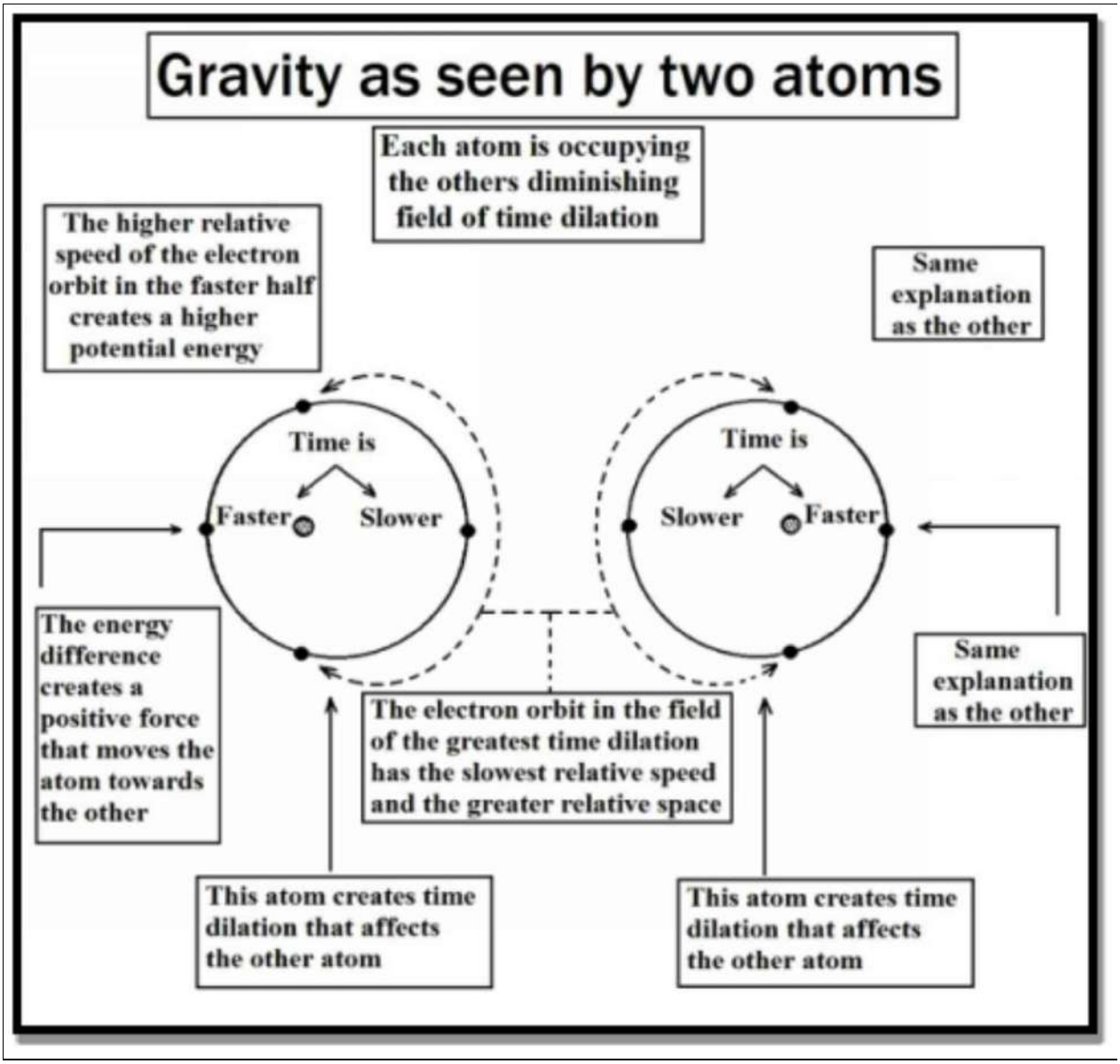
This illustration emphasizes more the characteristic of the relative speed difference in the electron orbit. The slower time closest to the source causes the electron to have a slower relative speed verses the speed of it on the faster half. That relative difference equates to a potential energy difference which equates to a force being applied to the side of the atom in faster time which propels it towards the source of time dilation, the sun.

Illustration 3-6; Atom no time dilation and in time dilation.



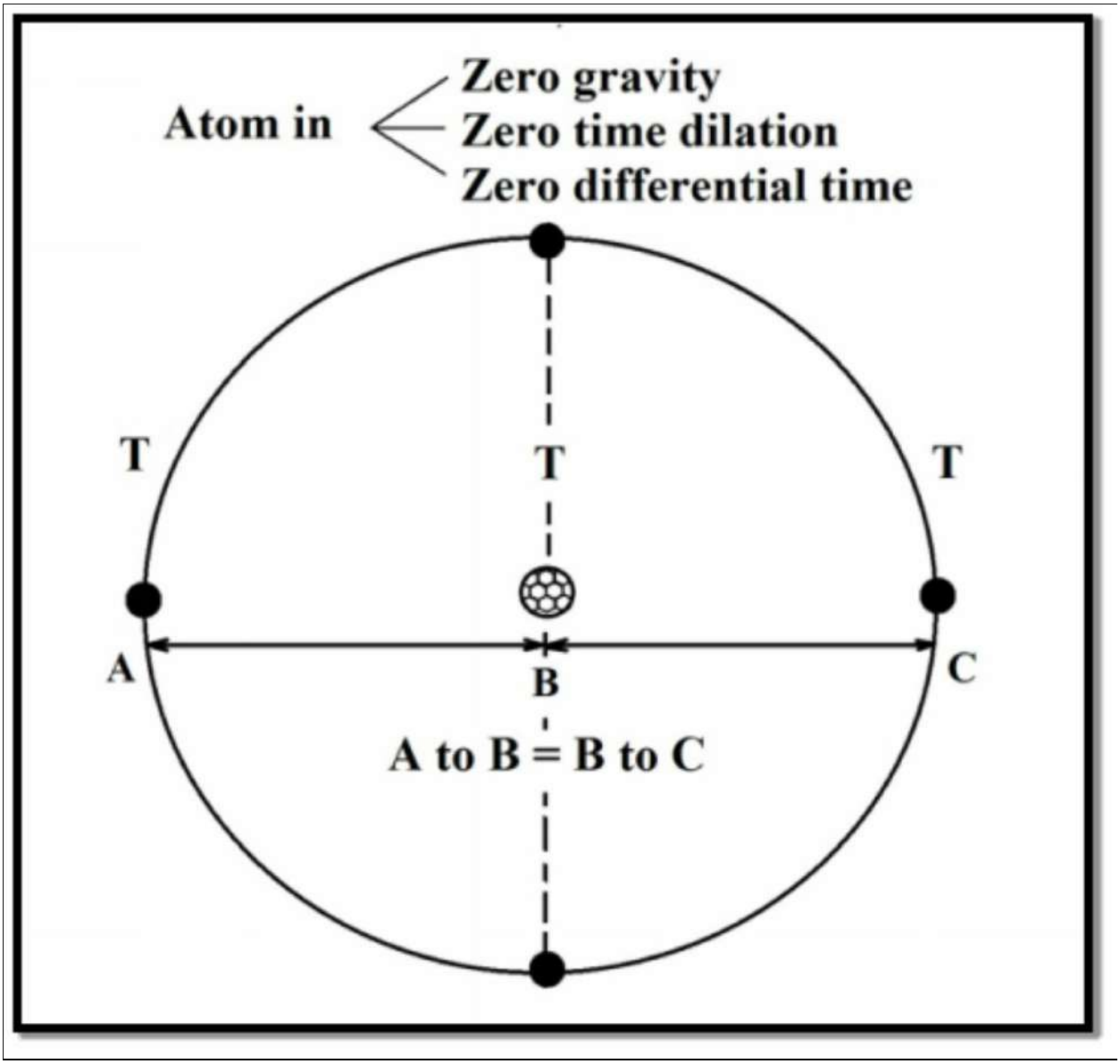
The top of this illustration shows an atom with no difference in time within it which could be considered flat space or neutral time dilation because there is no gravity source acting on it. The nucleus is in true center and the electrons orbit with no relative difference in speed. In the bottom half we add the earth as a source of time dilation. It shows the change to the nucleus's relative position in the atom caused by the differential time it occupies. It's not emphasized but the electrons speed becomes relative in its orbit.

Illustration 3-7; Quantum gravity between two atoms.


Gravity as seen by two atoms
Each atom is occupying the others diminishing field of time dilation
The higher relative speed of the electron orbit in the faster half creates a higher potential energy
Same explanation as the other
Time is
Faster
Slower
Time is
Slower
Faster
The energy difference creates a positive force that moves the atom towards the other
Same explanation as the other
The electron orbit in the field of the greatest time dilation has the slowest relative speed and the greater relative space
This atom creates time dilation that affects the other atom
This atom creates time dilation that affects the other atom

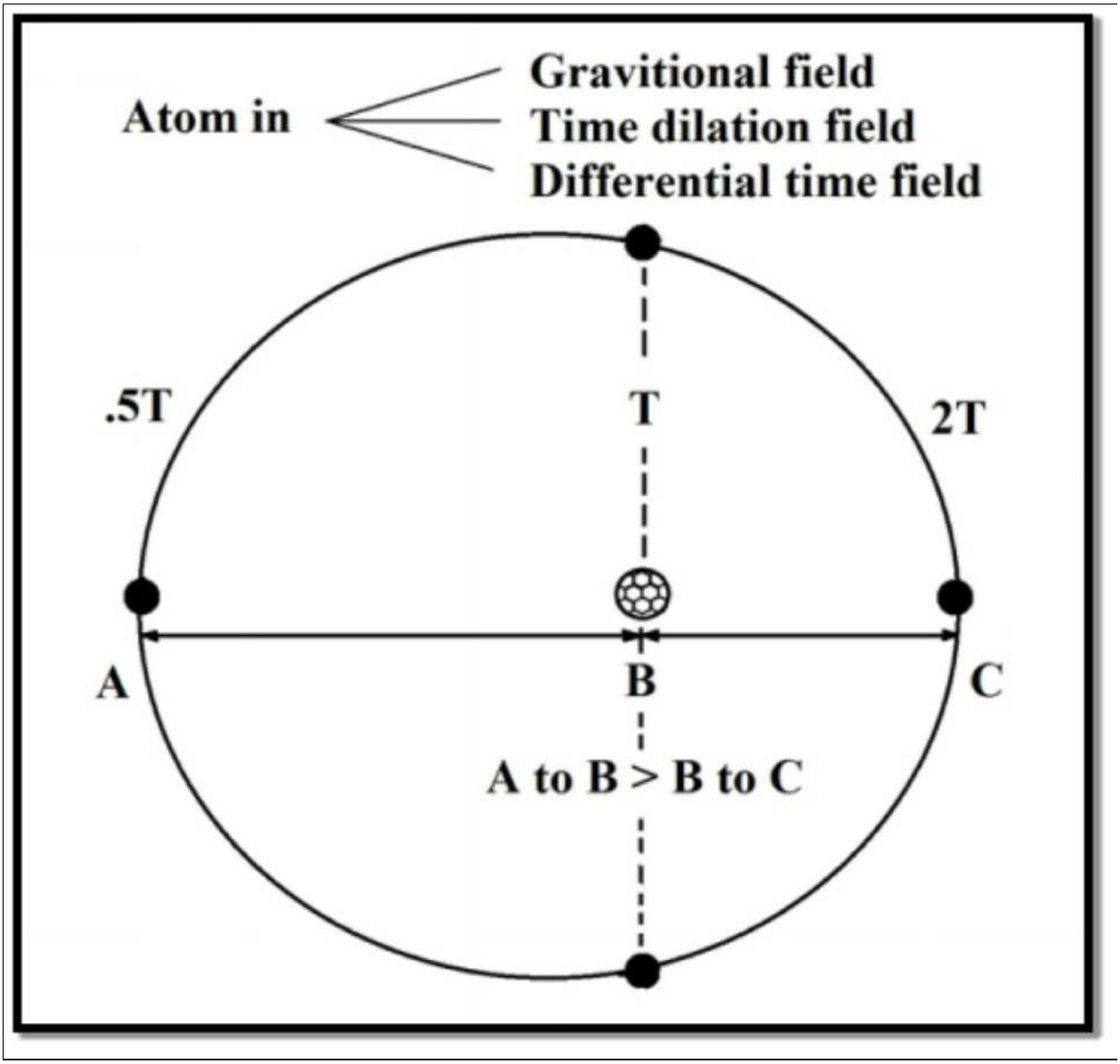
This illustration goes through every aspect of how two atoms react to each other's time dilation to propel each towards the other. How it does that is not by gravity waves or by graviton particles. Time is the only thing that exists between the two atoms and the differential time is what spans the distance. The larger the source of time dilation there is the larger the difference in time, thereby creating a larger potential within the atom. The two atoms above would be propelled to one another equally and meet in the middle.

Illustration 3-8; Atom in zero gravity, zero time dilation.



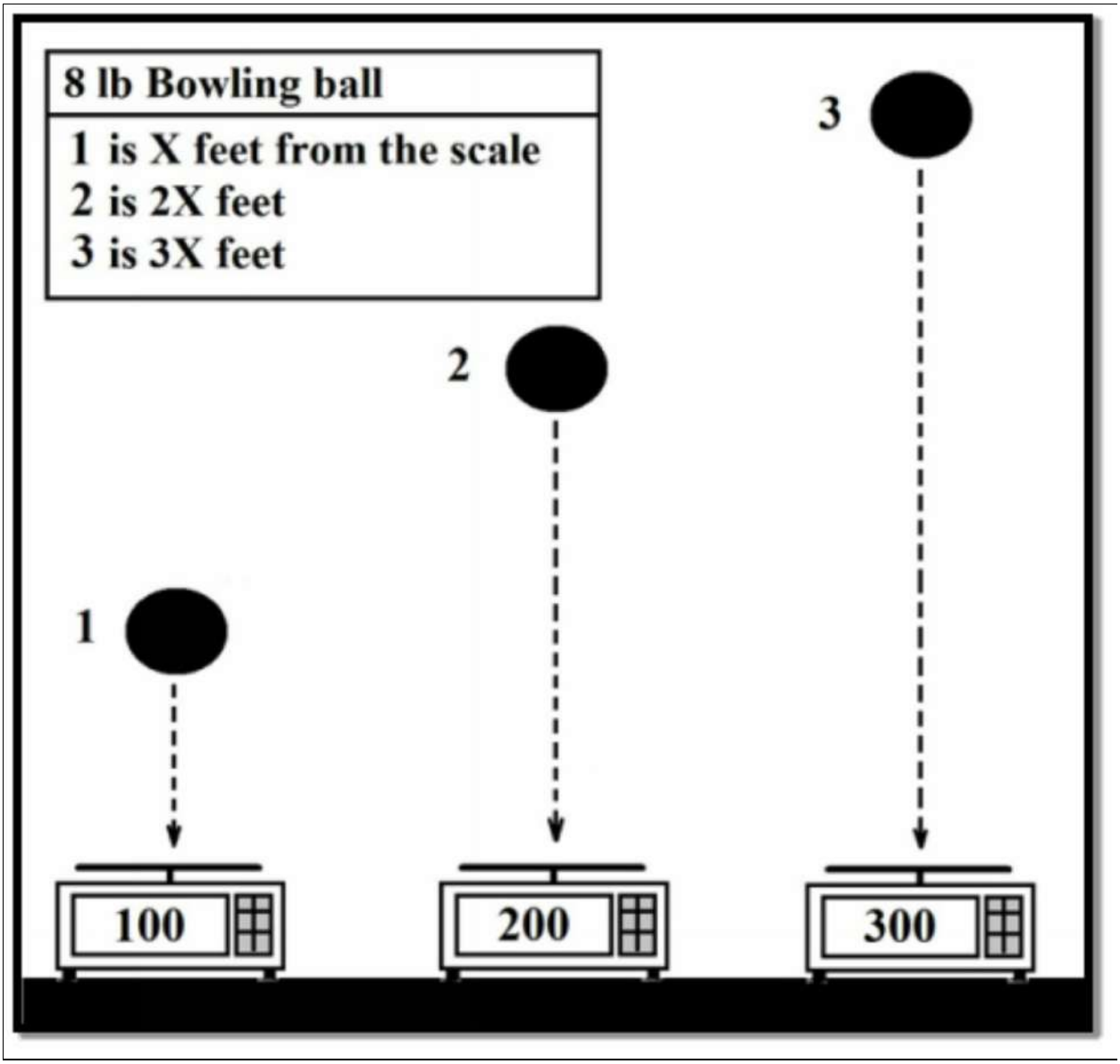
This represents an atom in zero gravity with no relative difference within the spatial area of the atom. There is no difference in the speed of time or spatial dimension. In this configuration there is no potential energy difference to convert to force therefore this atom would remain stationary in space until there is a difference in time within it, then it would start moving through space towards the slowest rate of time (Greatest rate of time dilation).

Illustration 3-9; Configuration of atom in differential time.



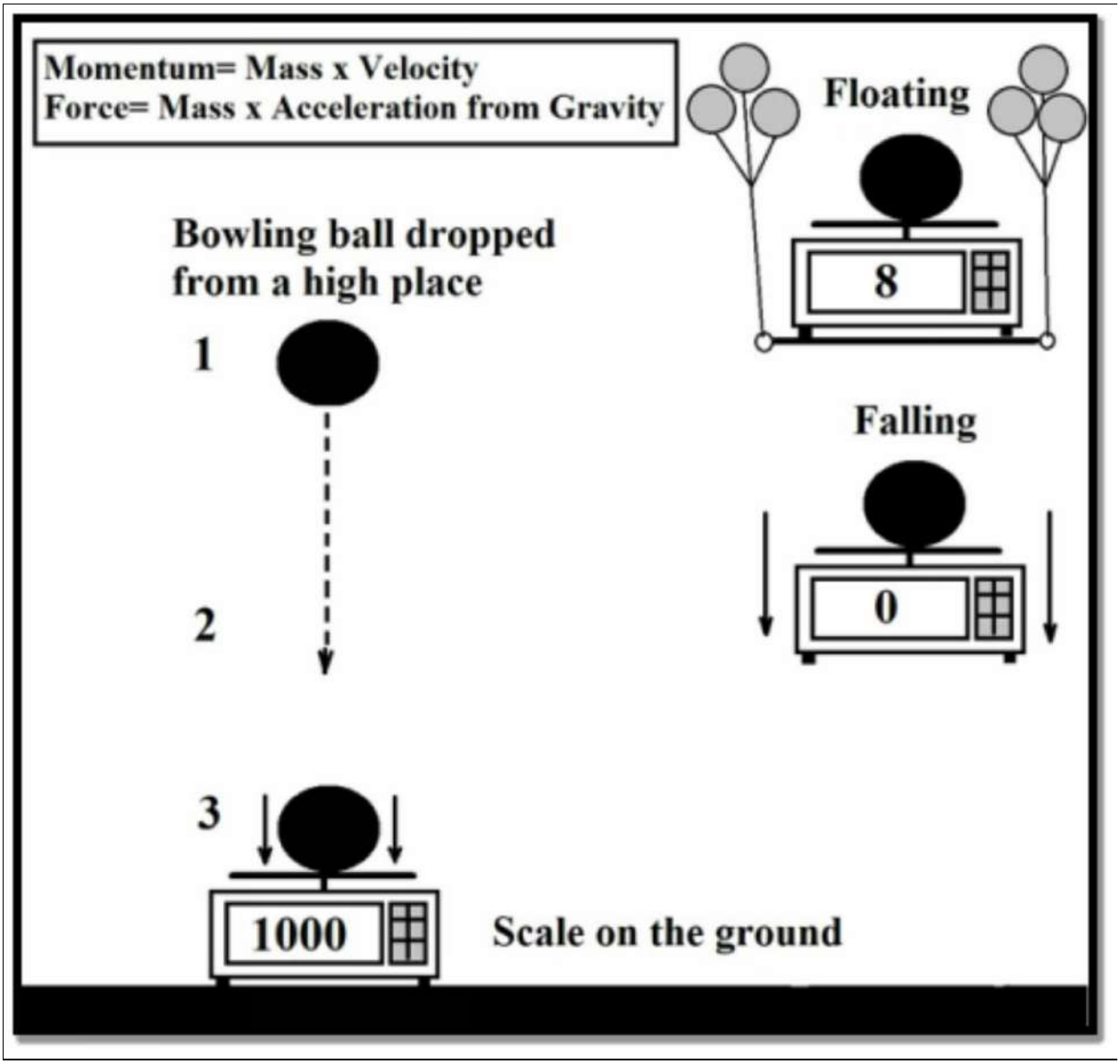
(The source of gravity is on the side A). An atom in differential time is an atom in time dilation because it diminishes with distance from the source such as a planet. The atom shown is what happens while in time dilation. The spatial distance from A to B is greater than from B to C because time is slower in half A-B. When an area of space has slower time it takes light longer to pass through it which by relativity makes it larger. If it takes light longer to pass through an area of space than another area of space then the area it takes longer has more distance.

Illustration 3-10; More force is added from gravity.



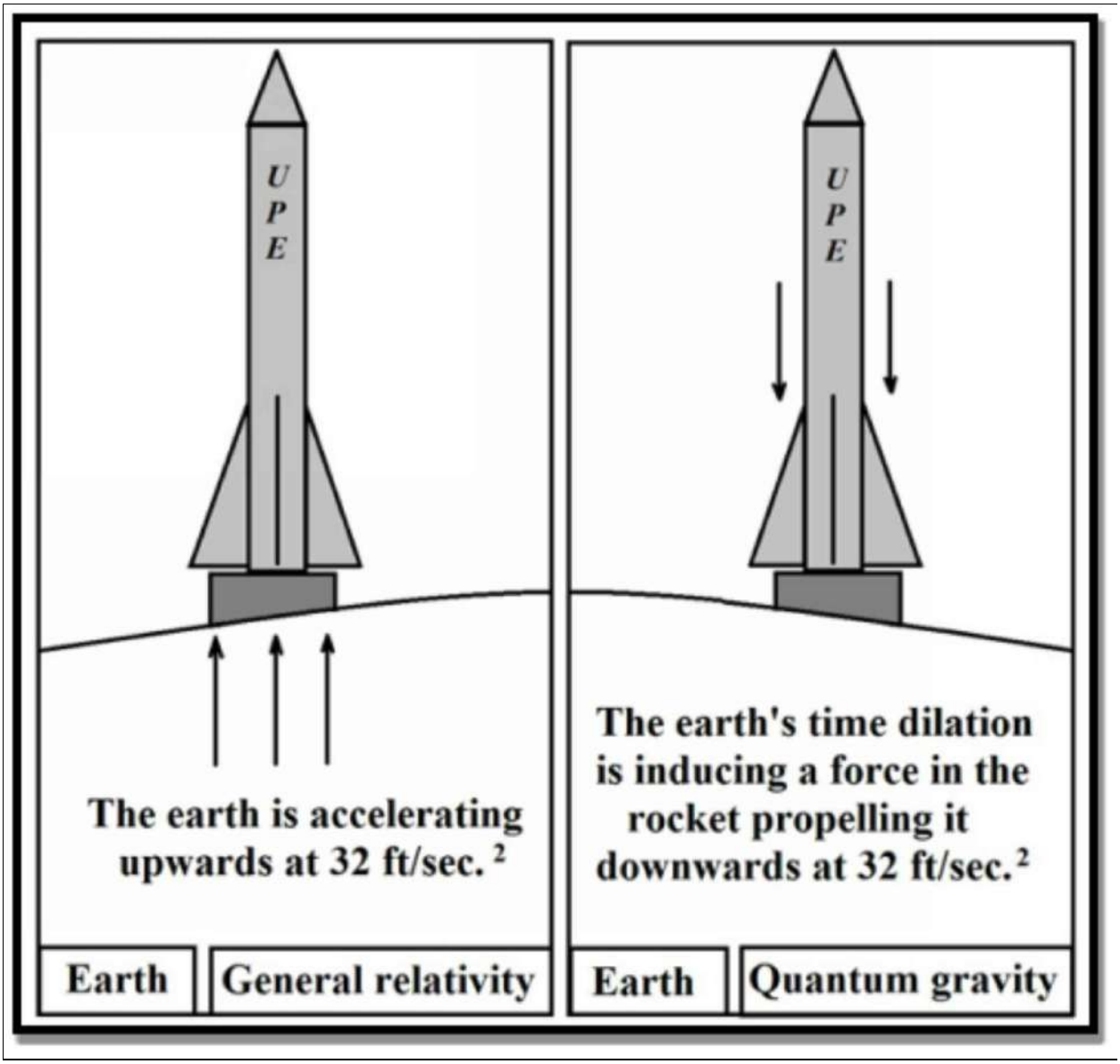
This illustration is designed to highlight the fact that the end result of gravity is more force upon impact. The higher the bowling ball is in height the greater the reading on the scale will be when it impacts. The point of this is to show that gravity is a force. The force of gravity is applied to the bowling ball and the longer it is applied the more force there is inherently in the ball when it hits the scale. Force cannot be created abstractly and then changed into a real force.

Illustration 3-11; Gravity is a real force not an abstract force.



The bowling ball falls at 32 ft. /sec ^{2} , that is its acceleration from gravity. The longer it is falling the greater the velocity and the greater the momentum the greater the force that is released when it impacts the scale. If the scale wasn't destroyed it would read the total force absorbed in the ball during its free fall then settle down to read the at rest value of 8 lbs. The ball on the scale falling would read zero because there is no opposing force under the scale, also when falling its absorbing the force like a battery releasing it on impact.

Illustration 3-12; General relativity verses Quantum gravity.



This illustration makes a simple and basic comparison on how GR and QG describe how gravity works for objects at rest on the surface of earth. GR postulates that the rocket is at rest and the earth is accelerating upward through space-time at 32 ft./sec. ^{2} . QG states that the rocket has a force induced in it by the time dilation of the earth propelling it down towards the earth at 32 ft. /sec ^{2} .

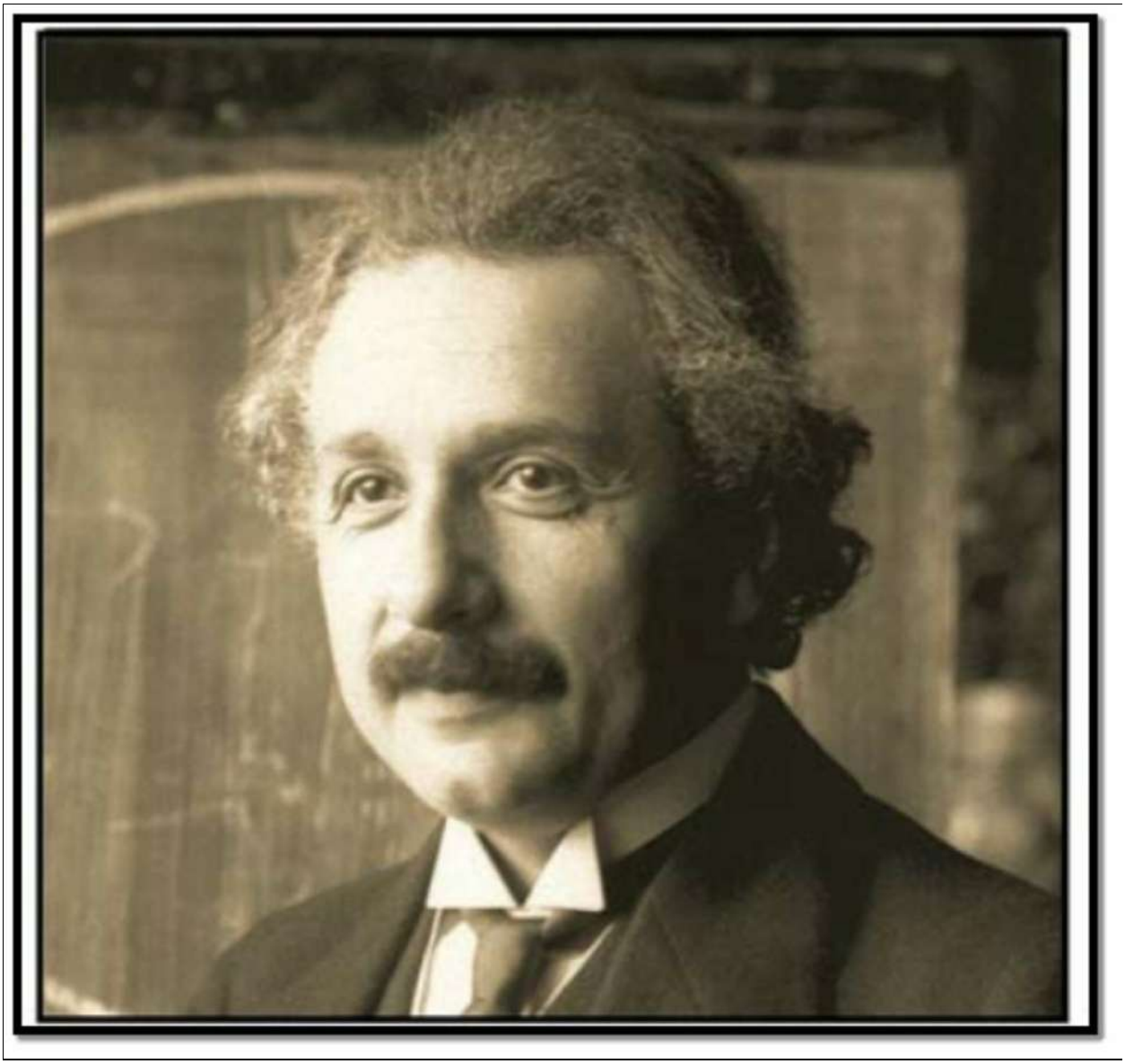
Illustration 3-13; Galileo Galilei.

This is an illustration of Galileo Galilei an Italian astronomer, physicist and inventor. He experimented to try and learn more about gravity and developed the first telescope. He was born in 1564 and lived until 1643.

Illustration 3-14; Isaac Newton.

This is an illustration of Sir Isaac Newton and he was an English astronomer, physicist, mathematician and inventor. He invented the first reflector telescope. His math and formulas were ground breaking and are still used today for calculating the force of gravity. He was born in 1643 and lived until 1727.

Illustration 3-15; Albert Einstein.



This is a photograph of Albert Einstein a physicist, mathematician theorist and Nobel Prize winner. He created the ground breaking theories of special and general relativity. He was born in 1879 and lived until 1955, passing away in a Princeton, New Jersey hospital.

How Time Dilation Bends Light

The bending of light is a concept commonly attributed to gravity. I say it is attributed to gravity only because gravity is thought to be a concept of curved space-time. That curved space-time is supposed to direct the light that passes through it and the curvature is then applied to the light. It is thought that the large mass of the sun bends space-time or curves it and the light follows a straight path through curved space-time. The term is called gravitational lensing because it is thought that gravity is curving space to resemble the way light passes through a lens to change the lights direction. This is usually detected when light from a distant star creates a halo either partial or fully around an object in between the star and the earth with that object having massive gravitation. This halo effect is one of the characteristics that physicists usually use to steadfastly hold on to Einstein's general theory of relativity. But what if there is a more reasonable explanation for why light bends while passing a star? If there is then the concept no longer strengthens general relativity as the main factor for the phenomenon. Then GR would be back to square one and be only an unproven theory. That is why this is an important section of this book. The quantum theory provided in it may not be enough to change people's minds, there has to be along with it something that shakes the faith that people have in general relativity. Providing a rational more reasonable explanation of why light bends passing a star would go a long way to give people a stepping stone. They may need that to help them take a step away from general relativity and towards a more rational theory of gravity such as the one I am proposing.

The bending of light is also done by our sun and the first discovery of this was done by Sir Arthur Stanley Eddington in order to prove Einstein's theory of general relativity that was published in 1915. It was four years later in 1919 and Eddington traveled to a location that was due to have a full solar eclipse. He used his telescope with a camera mount and took successive photos of the eclipse from beginning to end to find out if light of a star behind the sun was being bent and to prove it with

photographic evidence. Imagine him taking the photographs on this old antique camera though it wasn't antique at the time. It's amazing what people can do with antique technology of the past. After he had gotten back to his laboratory it took some time to evaluate the photos and they were difficult to determine precisely but in time he contacted Einstein with the good news which helped cement the theory of general relativity into the history books. It was all over the newspapers and Einstein became a household name. That theory has held dominance in the physics world ever since and to this day the concept of gravitational lensing helps keep general relativity as the prime concept for defining gravity.

What if a better explanation comes into existence to describe why light bends around objects of mass? That might show that you shouldn't put all of your eggs in one basket so to speak. General relativity has reigned for over a century and considering how little we've come to building gravity powered craft I'd say we dropped that basket of eggs. We have had a century to make progress but the general consensus was to steadfastly hold on to one theory over all others. We can't do anything about dropping the eggs but how about now we do the best we can and make some omelets since we can't change the past.

People have proposed their theories and they are recorded in books and articles but none have knocked general relativity off of its pedestal. It's as if everyone has had blinders on or you might ruin your career if you went against general relativity. That is still happening today and the topic usually divides people when in conversation. They have been brought up and taught about general relativity and it became ingrained in their brain. It's as though people can't go against their programing because they are incapable of changing or a suitable replacement for the knowledge has not yet been proposed. There should be a new saying "Don't talk about politics, religion or general relativity" because people are inflexible in their beliefs.

There are new theories of gravity proposed now and again but with the far out there theories of dark matter and dark energy people come up with complex far out off the wall theories to compensate for those supposed things. It seems that if you build a theory based on a false theory then that characteristic tends to transfer. That's my opinion and I'll stick to it, you can criticize my theories all you want but they are based on real factors and characteristics of this universe that have already been proven. I am just looking at things differently in a step by step fashion rationally, analytically and of course with some common sense.

About that better explanation I mentioned a paragraph ago it was originally first published in my other book "The Universe 20/20". I described it in detail in the chapter on redefining gravity and since I am writing this book to highlight that one

chapter I'm including it here also. Another reason I'm including it is because in essence Eddington basically proved Einstein's theory of GR with the phenomenon of gravitational lensing because Einstein predicted it. But just because Einstein predicted that light would bend by a massive object according to his theory that doesn't mean there isn't another reason why it would occur.

My theory doesn't use gravity as the means of light bending when passing by a star it uses time dilation which is a level deeper than gravity since that also creates what we feel as gravity. It's very simple, when light passes through time dilation it bends depending on the strength of the time dilation. Time dilation is layers of time that passes slower than the next layer and faster than the previous layer emanating around any object of mass like layers of an onion. Since the speed of light is always at the maximum speed limit it's always on full throttle passing through the universe. But when it hits an area where time wants to slow it such as around a star or black-hole the time dilation will create a path where part of the light ray will be occupying a slower rate of time and the other part a faster rate of time. Since light travels at one speed it will not travel as far in the slower time than the faster time and this will create an arc in the path. The arcing has nothing to do with gravity only time dilation. The fact that time dilation creates gravity and time dilation bends light you cannot say that gravity bends light. Time dilation is bending the light because it's passing though variable time not following a straight line through curved space. That is to the point and a very simple explanation though I fear it may take another hundred year before physicists open their eyes to see that light.

Here is an example for you to imagine, when light is bending as it is passing a star it's bending because time is changing the distance that parts of the light ray are able to travel. Imagine the light ray as a cylindrical tube traveling through space. Its traveling as fast as time allows but when it's passing a star the side of the tube facing the star is in slower time with the opposite side in faster time. Since it's already at maximum speed the difference in the speed of time changes the distance the tube "light" can travel forward. So what you will see is a dragging of the tube on the side facing the star, the side of the slower rate of time. That side will not be travelling as far as the side in faster time. When you combine those characteristics of the two sides with differing dimensions, one shorter and one longer the only way to match them up into a single ray or tube would be to combine then into an arc.

Imagine that a ray of light is a car with four wheels and on each side the wheels diameter is determined by the speed of time in the time dilation. Faster time would make the wheels on one side a larger diameter and slower time would make them a smaller diameter. The reason for that is because in faster time light would go further than in slower time. The larger wheel would go further than the smaller wheel with

each revolution. All of the wheels on the car turn in unison as though the wheels are welded to the axles. The speed of time is also determined by the time dilation in an area of space-time that the light is traveling through. That would make the diameter of the wheels on the car variable and the speed of time would make them vary. Time dilation would then direct the car left or right according to which side the time dilation was affecting. By changing the diameter of the wheels on one side making them smaller that would cause the cars direction to veer towards that side. That side would be occupying the space-time of the slowest rate of time. The slowest time would be the side of the car facing the star. There would be no steering wheel on this car and the direction would be controlled only by variances in the speed or rate of time. The time dilation can be of any strength not just extreme time dilation near a star or black-hole. If you imagine that you could see the differences of time in the universe you would also see light bending and curving as though it were a car driving through an obstacle course.

Another example is to look at a set of railroad tracks that form a half circle. Measure each rail of that track with the inner rail representing the side of the ray of light closest to the star and the outer rail the farthest side. I didn't actually do the measuring in this example but it's so elementary using basic knowledge I would say it's a very good analogy for this topic. The inner rail would of course be shorter than the outer rail representing the ray of lights varying travel distances due to the varying speeds of time caused by time dilation. Looking at the ray of light as a whole half of the ray would have traveled farther then the other half because the half in slower time is limited by slower time resulting in the bending of the light ray.

Time dilation diminishes with the distance away from any mass and so does the arcing effect of light bending. If you measure the effect of light bending for a specific distance or duration it will follow the inverse square law for any point from a mass. But since light bends in parallel time dilation and that increases with distance from a mass the overall bending doesn't follow the inverse square law. The farther away from the center of a mass you measure the greater the area of parallel time dilation exists for light to pass through. If you imagine the center of a star and then draw two lines from that point at sixty degrees you make two sides of a triangle. If you measure the distance between the lines it gets greater the further you measure from the center of the star. That area between the lines represents the most parallel time dilation. As the distance increases then so does the compounding effect of the time dilation on the bending of light.

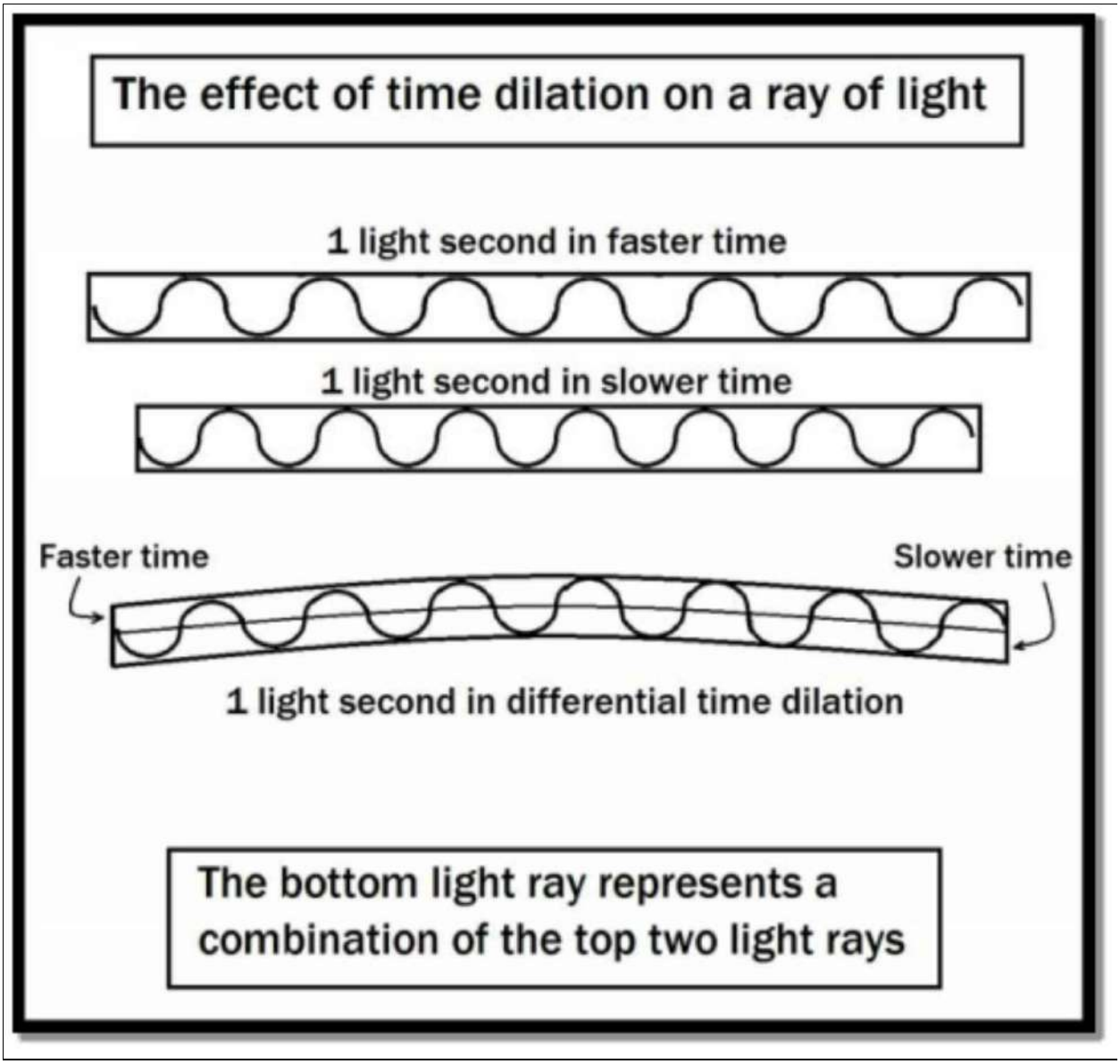
In the illustration at the end of this section this is visually explained. Comparing the area of parallel time dilation at ten radiuses to two radiuses from a star you see that the light has five times the duration of travel time for it. If time dilation follows

the same equation as the force of gravity then the light ray A is passing through twenty-five times weaker time dilation than light ray B. Light ray A has five times the duration of parallel time dilation to pass through. With its compounded effect that gives it an overall bending that is only five times that of light ray B not twenty-five. So even though light is passing through space far away from a star it is likely bending much more than previously imagined.

In the very least if you can agree that it is very likely that time dilation bends light like I suggest then you are also agreeing that light doesn't really follow a straight path through curved space-time. Along with that then the curved space analogy and the definition that gravity is not a force of GR is being shaken on its foundation. What we have held on to for so long for the last century may be on its last legs. GR has reigned for so long people may not be able to accept any other possibility for the creation of gravity. That is a shame since that would be limiting mankind's knowledge and ability. By doing that it's going to take us longer to unlock the mysteries of the universe and get out there.

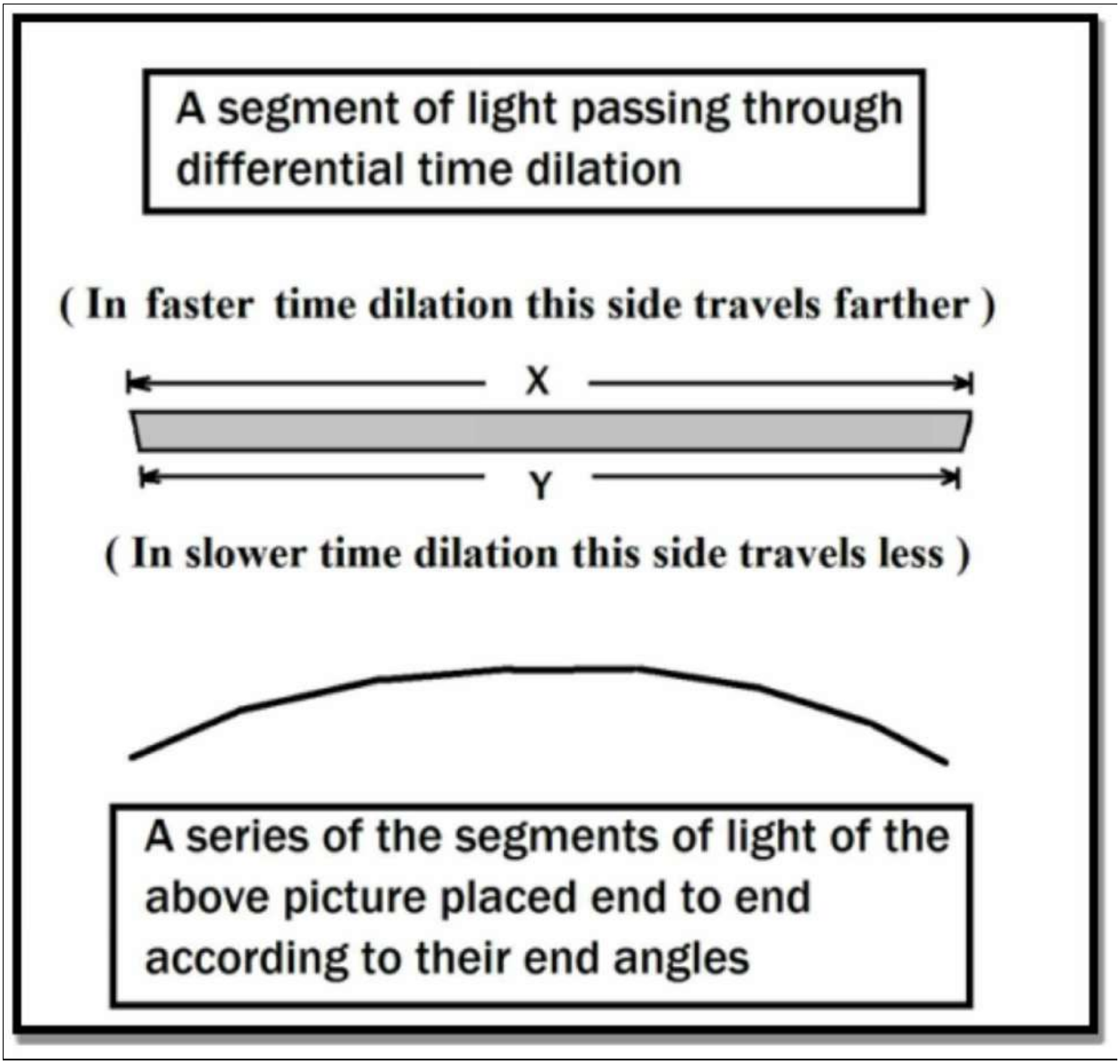
If the theory of gravitational lensing is altered, not rendered obsolete but just altered that sends us back to 1919 when Sir Arthur Eddington found proof that light bends as it passes the sun. That is all he did, is prove that light bends, he didn't prove how it bends so his findings should not have given GR any validity. Even though Einstein predicted it one single prediction coming true should not have been a qualification to accept GR fully. To this day the bending of light being assumed is due to light following a straight line through curved space-time is the only thing that supports GR as a description for gravity. But like I said before they only assumed how it was bending because it was preconceived. They proved it was bending but they didn't prove how.

Illustration 4-1; The effect of time dilation on light 1.


The effect of time dilation on a ray of light
1 light second in faster time
1 light second in slower time
Faster time
Slower time
1 light second in differential time dilation
The bottom light ray represents a combination of the top two light rays

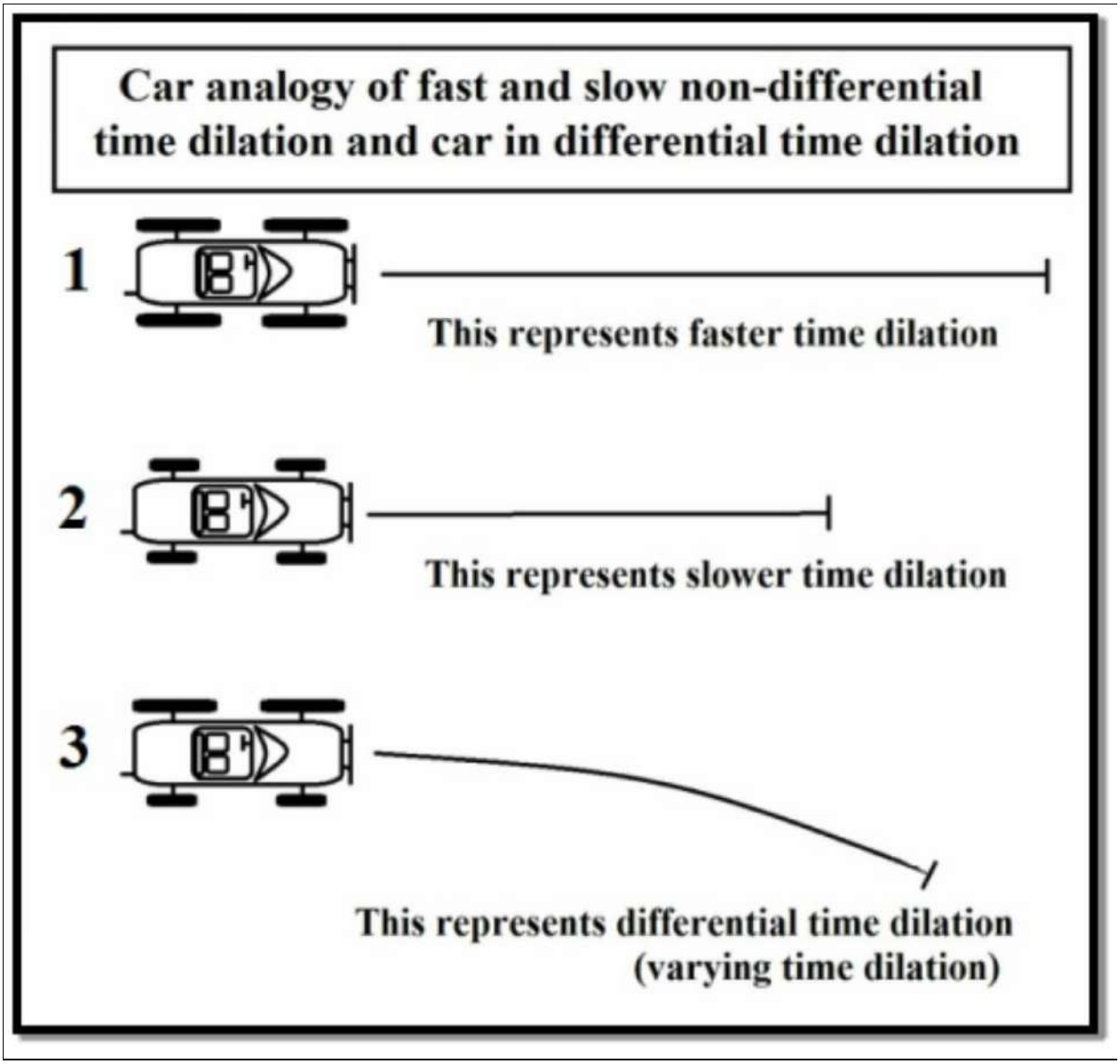
In this illustration it shows a ray of light sliced down the center, where one half of the ray closest to the star and traveling parallel to it is in slower time than the other half. That means the half in faster time is going further and the half in slower time lagging behind not going as far. This relative difference causes the effect of an arcing to occur in the light ray. This is why light bends as it travels through parallel time dilation since that causes time to vary in speed emanating from a star.

Illustration 4-2; The effect of time dilation on light 2.


A segment of light passing through differential time dilation
(In faster time dilation this side travels farther)
X
Y
(In slower time dilation this side travels less)
A series of the segments of light of the above picture placed end to end according to their end angles

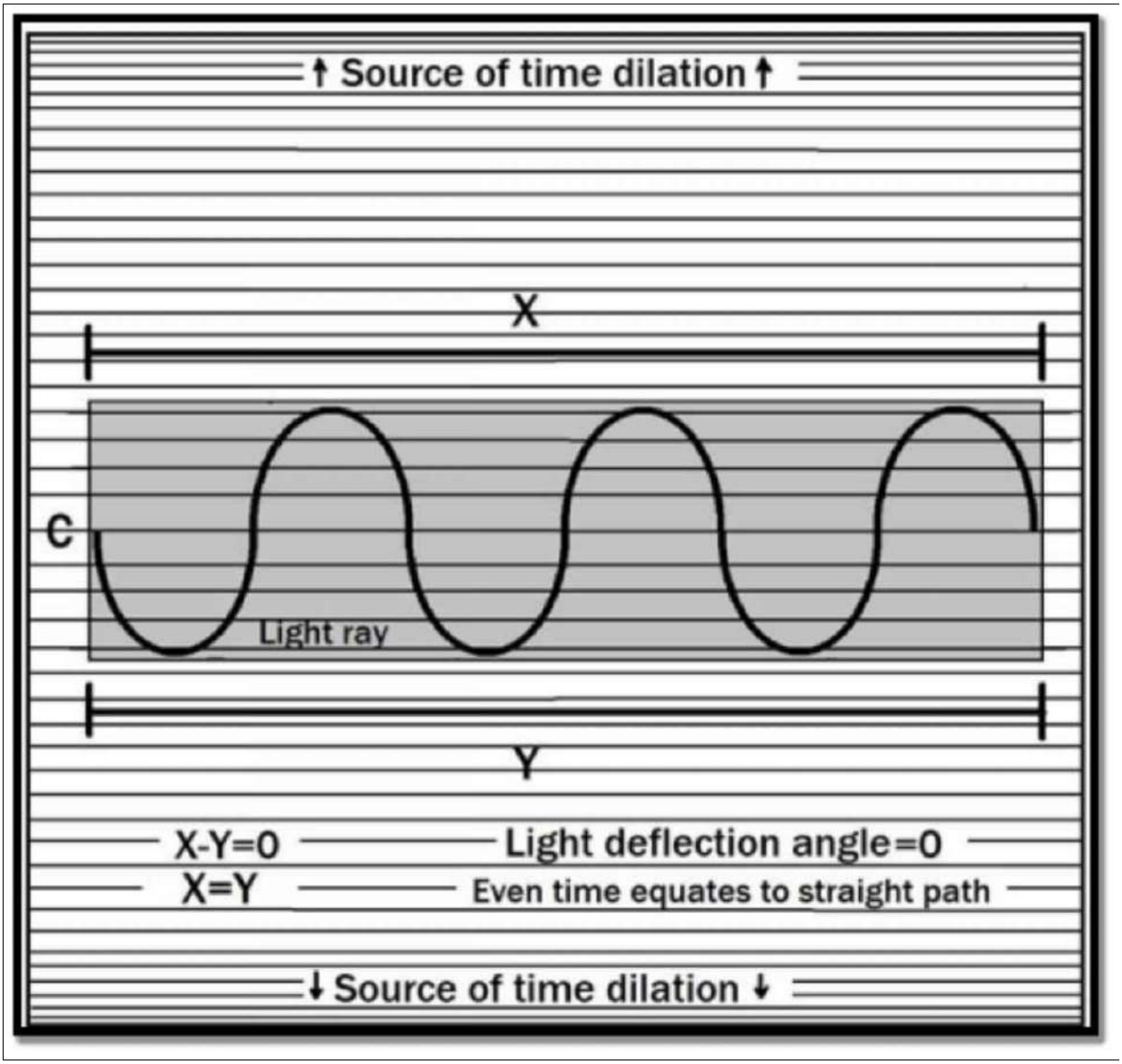
This is another representation of the previous illustration. It shows another way to look at the phenomenon since light exists as a three dimensional ray and the difference in time caused by time dilation will specifically affect its trajectory. If you look at the light in segments then align those segments end to end according to their end angles they will not produce a straight line. That is an analogy of the actual circumstances, it causes a smooth curve not flat segments end to end. The analogy is an aide to help in understanding.

Illustration 4-3; Car analogy of why light bends.


Car analogy of fast and slow non-differential time dilation and car in differential time dilation
1
This represents faster time dilation
2
This represents slower time dilation
3
This represents differential time dilation (varying time dilation)

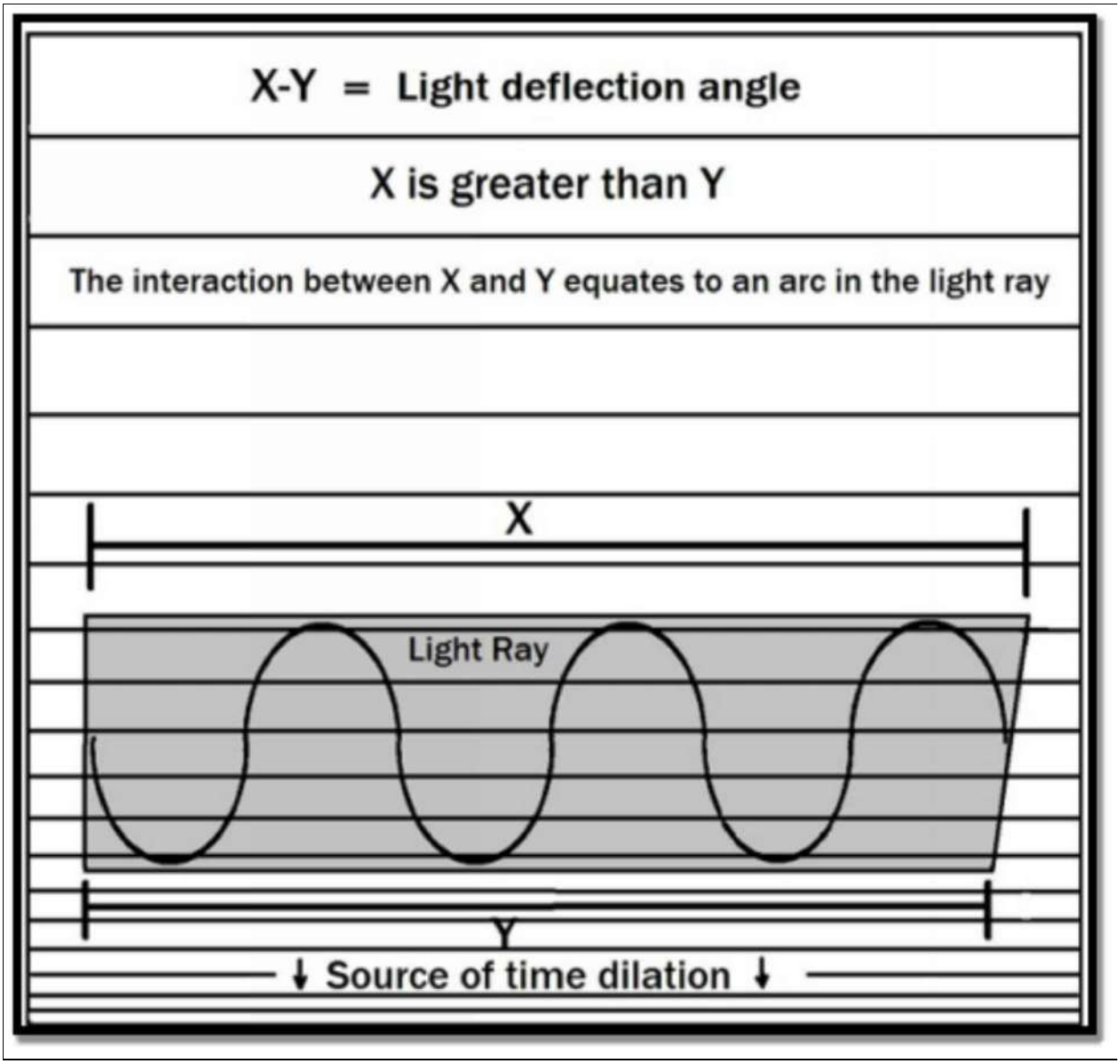
The cars axles have a set speed of 60 rpm which represents the set speed of light. Car 1 has 6ft circumference wheels and car 2 has 3 ft. Because light travels farther in faster time car 1 will go farther with larger wheels than car 2. If a car were to travel through time dilation passing a star which is differential meaning time is slower at the surface and gradually speeds up with altitude it would represent car 3. One side of the car would be in faster time and the other in slower time, the car would arc towards the slower time.

Illustration 4-4; Neutral time dilation effect on light.



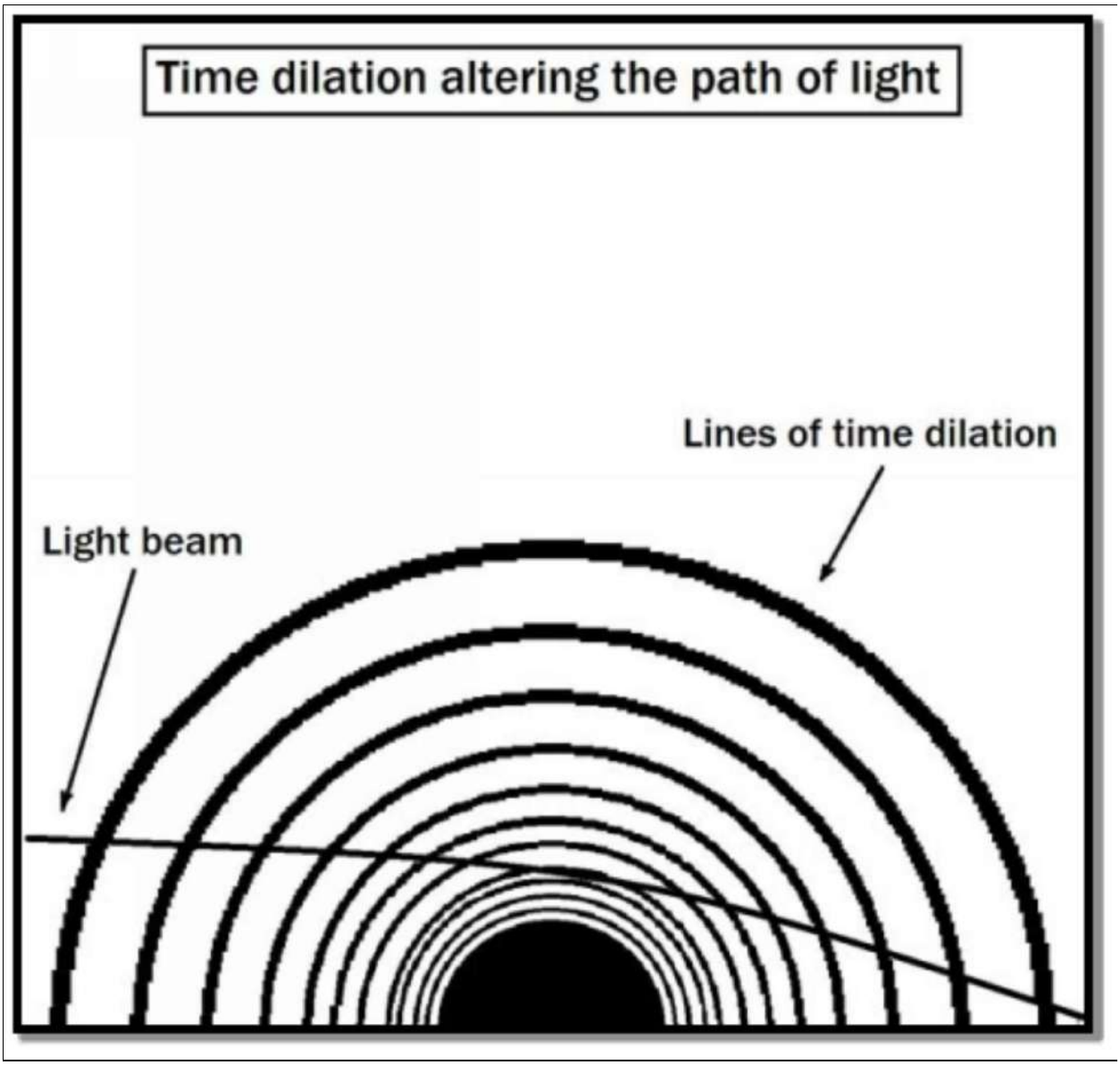
This example shows a ray of light passing exactly between two sources of time dilation so that the space-time it's passing through has no deviation in time. It shows each side of the light ray is the same therefore there would be no deflection angle. The same would hold true if the light ray were passing through flat or zero gravity space-time.

Illustration 4-5; Time dilation effect of light.


X-Y = Light deflection angle
X is greater than Y
The interaction between X and Y equates to an arc in the light ray
X
Light Ray
Y
Source of time dilation

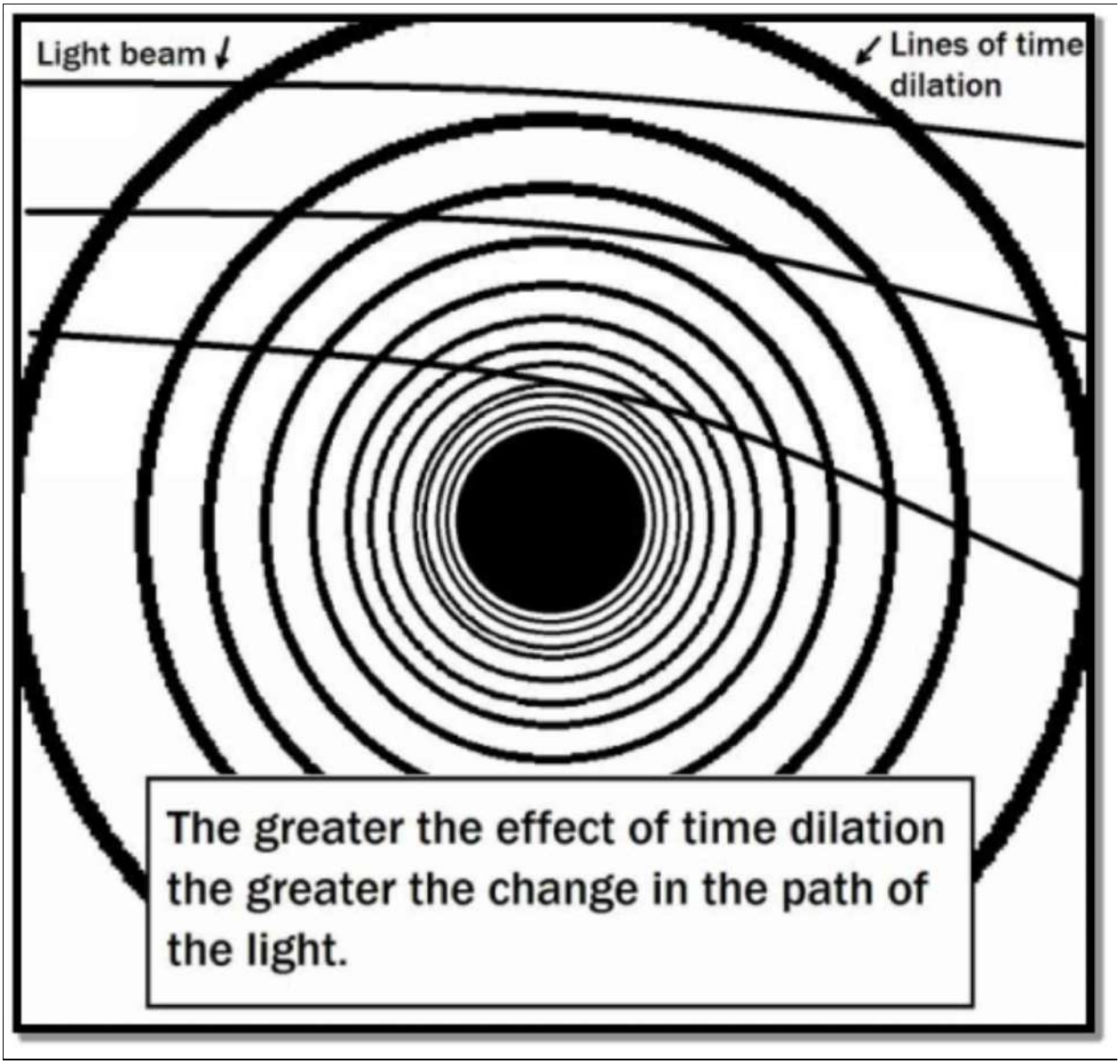
In this example there is just one source of time dilation acting on the light ray. One side of the light ray would be longer than the other because that side is occupying faster time. The end result creates an arcing trajectory. Time dilation causes a light ray to have varying lengths, one side would be longer and one side would be shorter and to compensate the light ray travels in an arcing direction.

Illustration 4-6; Light ray passing through star time dilation.



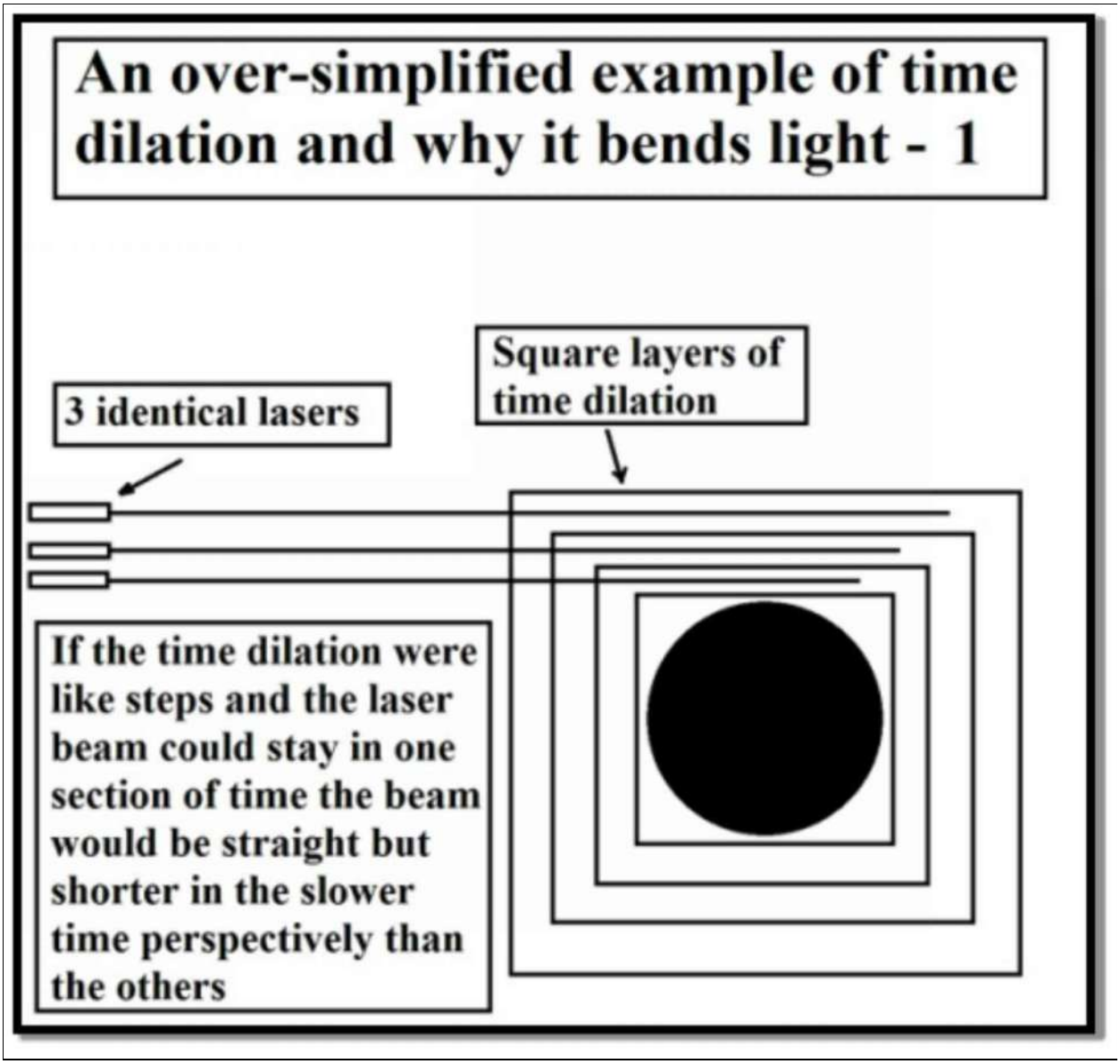
This is a simple illustration of a star and the time dilation around it with a light ray passing by. The time dilation is the strongest nearest to the star. The light ray would bend the greatest nearest to the star. The reason for that is the time dilation will diminish according to the inverse square law equation from the center outward. It would be an exponential decline of time dilation. Even though it declines with distance away from it any amount of time dilation will alter the trajectory of a light ray.

Illustration 4-7; Light rays in a variety of time dilation.



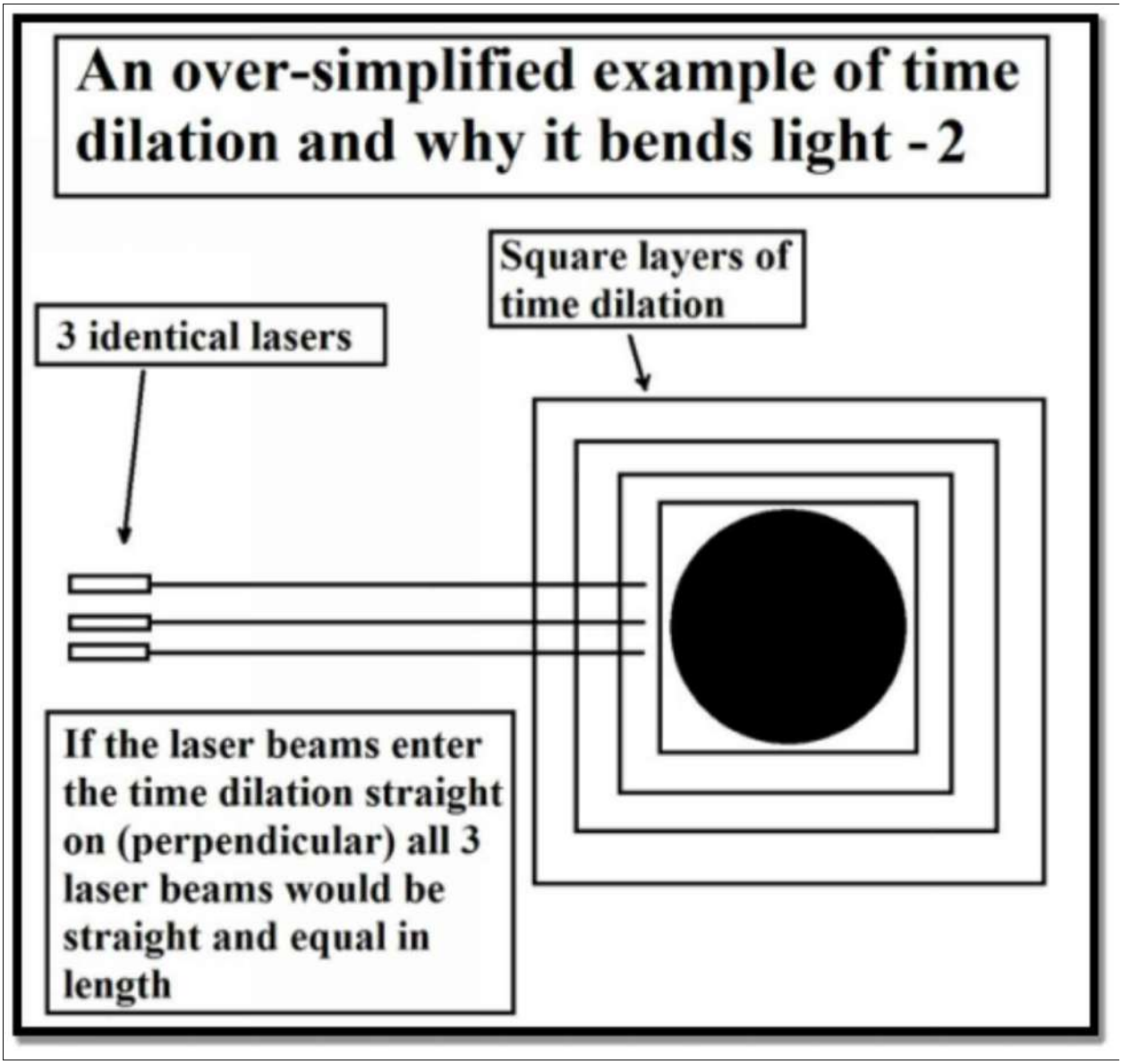
This illustration shows three light rays in three different strengths of time dilation surrounding the star. The light ray closest to the star bends the most and the next light ray bends slightly less and the next light ray bends even more slightly less. According to the inverse square law equation the time dilation effect around the star never reaches zero no matter how far away. That means no matter how far away a light ray passes by a star it is always bending from some significant to insignificant amount.

Illustration 4-8; Over-simplified example of light bending 1.


An over-simplified example of time dilation and why it bends light - 1
Square layers of time dilation
3 identical lasers
If the time dilation were like steps and the laser beam could stay in one section of time the beam would be straight but shorter in the slower time perspectively than the others

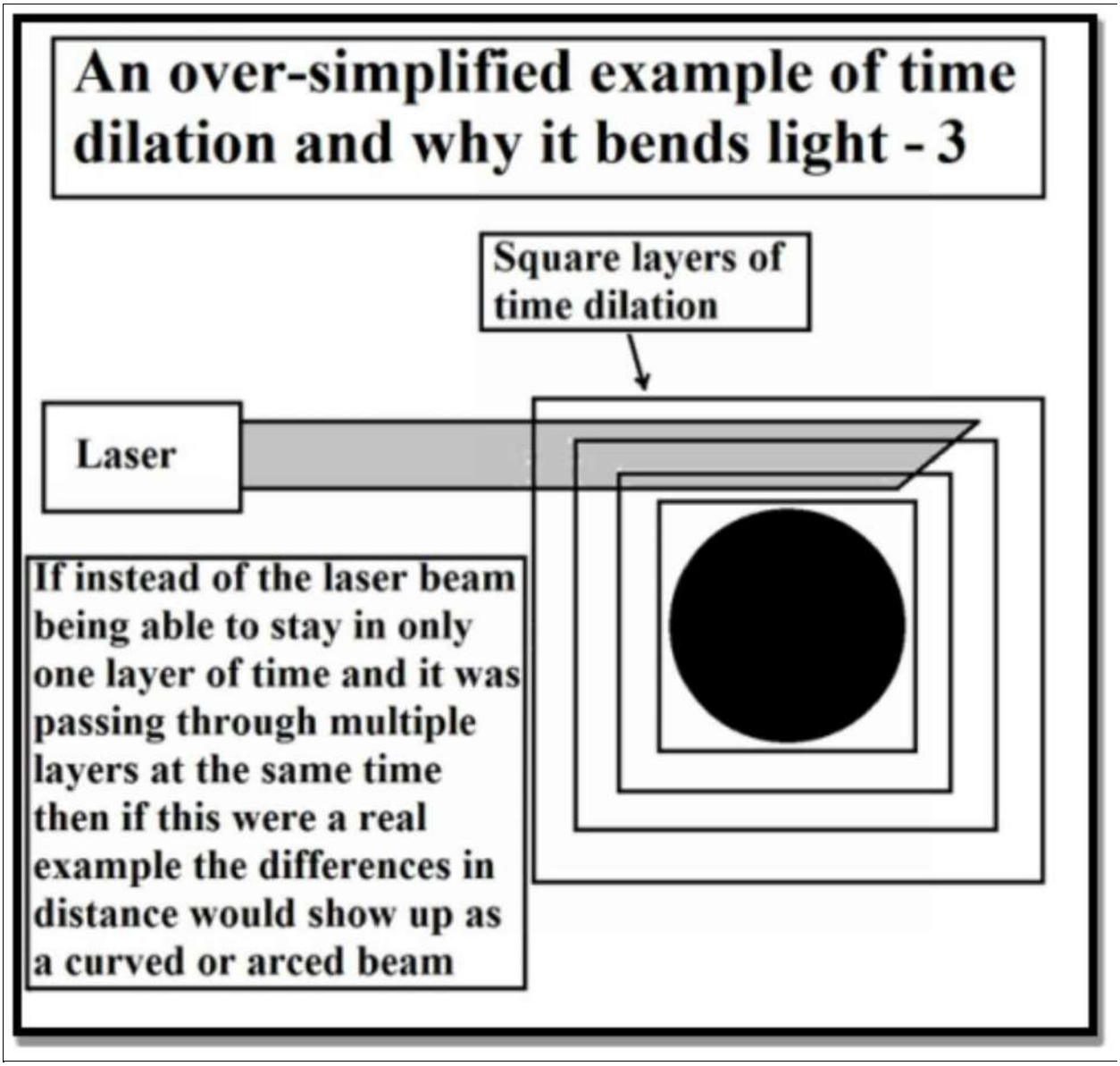
These next four illustrations are over simplified to be more specific about how time dilation bends light. By simply making the time dilation square that makes it easier to comprehend the process of light bending as it passes through it. Each section of time dilation is stepped and inside each step time is one rate with no differential, its slowest nearer to the star and faster each step away from the star. The laser light therefore travels the least far closest to the star and further in the next two steps.

Illustration 4-9; Over-simplified example of light bending 2.


An over-simplified example of time dilation and why it bends light - 2
Square layers of time dilation
3 identical lasers
If the laser beams enter the time dilation straight on (perpendicular) all 3 laser beams would be straight and equal in length

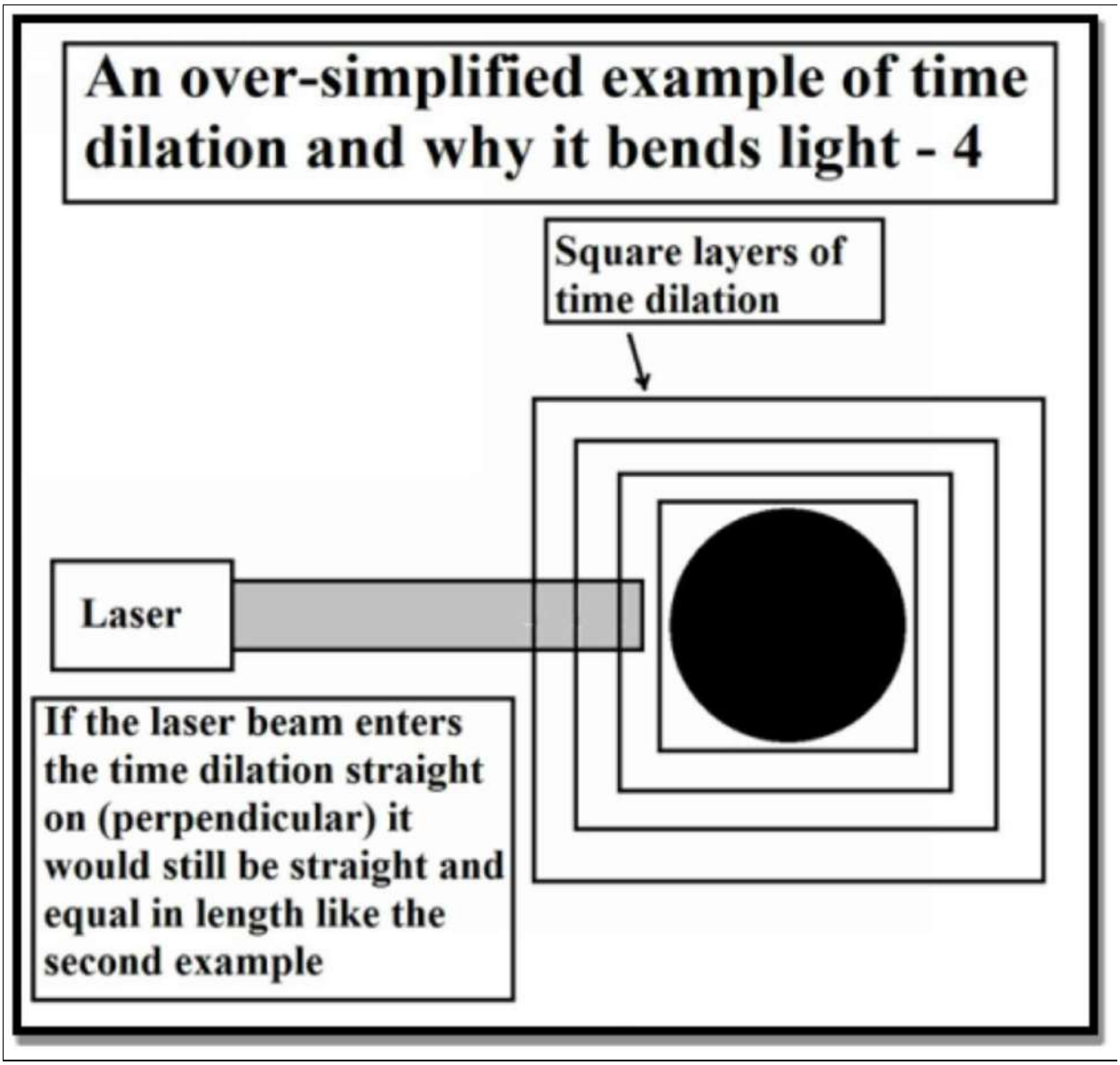
If the lasers were set up to aim directly at the star they would be penetrating the time dilation at a right angle and all three would be affected the same. They would enter each layer of time dilation in unison and be affected simultaneously. The bending of light only occurs when passing through the time dilation parallel to it because that places the width of the light ray in multiple layers of time.

Illustration 4-10; Over-simplified example of light bending 3.


An over-simplified example of time dilation and why it bends light - 3
Square layers of time dilation
Laser
If instead of the laser beam being able to stay in only one layer of time and it was passing through multiple layers at the same time then if this were a real example the differences in distance would show up as a curved or arced beam

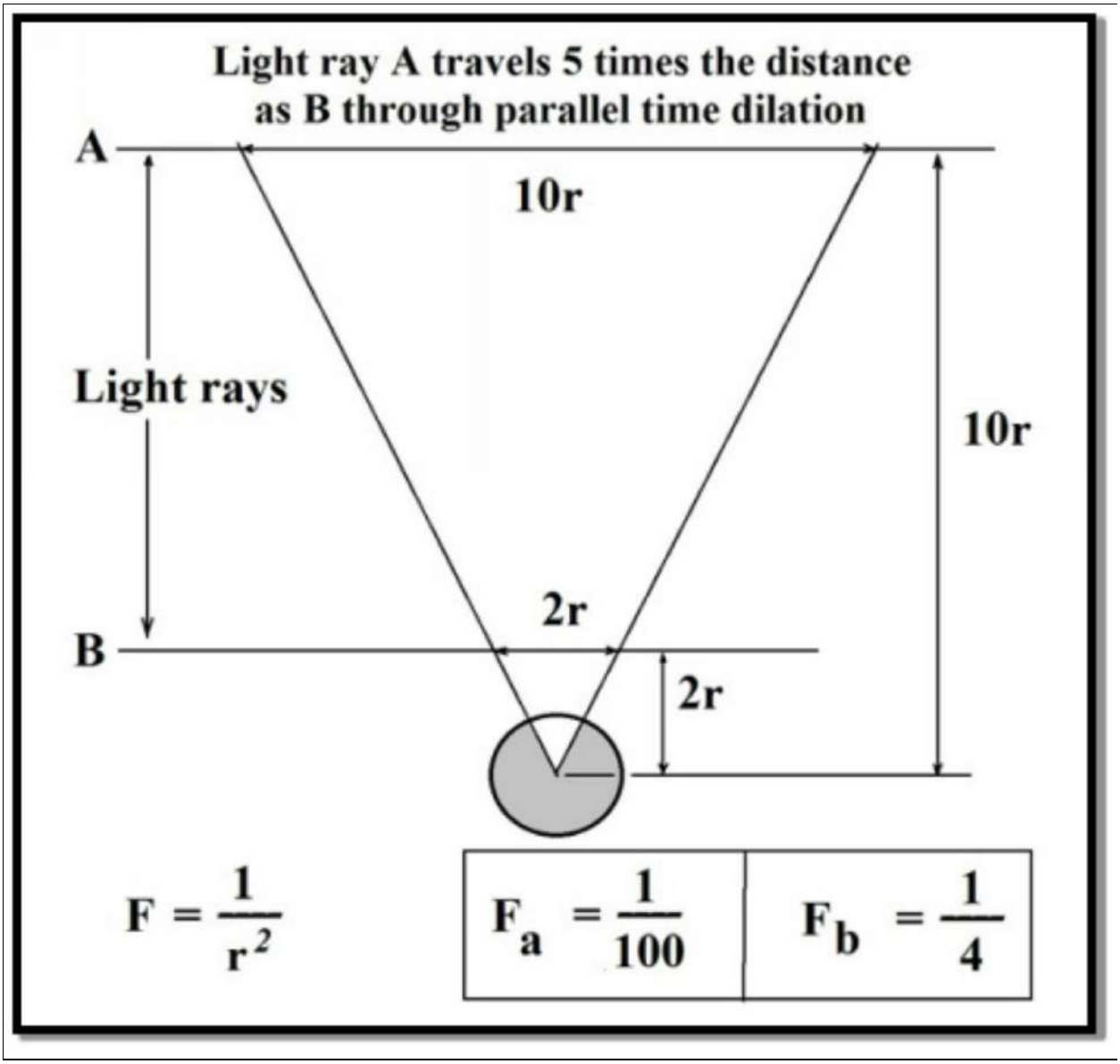
The light will bend when it is passing through the time dilation parallel to it because that way has the light ray occupying multiple speeds of time. In each successive layer of time the light ray will only traverse so far as time allows since light is at a maximum speed already. As pictured above the end is drawn as an angle for simplification. In actuality the end isn't angled it is the entire ray of light that has its trajectory angled making an arc instead.

Illustration 4-11; Over-simplified example of light bending 4.


An over-simplified example of time dilation and why it bends light - 4
Square layers of time dilation
Laser
If the laser beam enters the time dilation straight on (perpendicular) it would still be straight and equal in length like the second example

If the three lasers are replaced with one large laser beam the original result would still apply. These examples are designed to show the bending occurs only when light passes parallel to differential time dilation. If you slice a light ray down the center one half would be in faster time and the other half in slower time, with the nature of light having a limited speed that characteristic is most likely the reason light arcs while passing parallel through lines of time dilation.

Illustration 4-12; Parallel time dilation effect increases.



This shows that with distance from the sun the amount of parallel time dilation in space-time increases. In this example it increases five times. That means that even though the time dilation diminishes for light ray A it stays in it five times the span or five times longer. The bending amount of light doesn't follow the inverse square law because it has more parallel time dilation to pass through. The bending of light compounds so with the longer distance it bends more than the 2r distance. It bends as the 2r x 5 which equals 10r.

Quantum Gravity Propulsion

The theory of gravity I have presented in this book is laid out in detail of exactly how the process of gravity works so that we can use that process to simulate gravity. It seems so elementary now that gravity is a direct result of the time dilation an object is occupying. With time dilation being the key to gravity then it is also the key to simulating the propulsive effects of gravity. Simulate and duplicate time dilation, make it directional and you have a propulsive quantum gravity drive.

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I was born in the mid-sixties and like any child my spare time was designed for playing. I would play with building blocks, tinker toys, Lincoln logs or Legos as well as many other toys that would exercise my imagination. It seems building things was a common denominator when it came to which toys I would choose. As I got older that transitioned to model cars, airplanes and rockets. The airplanes and rockets were the most fun yet they usually hit the ground and ended up in pieces. Then began my lifelong desire to learn to fix things but I'm a little past the timeline I was aiming for. Getting back to 1969 and the Apollo moon landing, I was still a child at the time and like I mentioned my life was devoted to playing. I recall only vaguely seeing some news footage of the event but was not overly interested. I wish I had been, it occurred within my lifespan and it was a pivotal moment in human history. Now watching all of the exciting Spacex starship prototype tests and getting ready to put it into orbit and then go to mars gives me the reminder of what I missed out on over fifty years ago. I wish I had paid more attention to it then because the endeavor to go to mars brings back that youthful excitement of seeing fantastic things for the first time.

I may not have consciously taken interest in the moon landings but it seems that somehow my subconscious mind must have taken an interest in it. I suppose that's why I've always favored science fiction space related movies and shows like Star Trek, Star Wars and Dr. Who. Mixing time travel with space and science and that is

the perfect sci-fi program. I don't know if you have to learn to be fascinated by these types of shows or have them be a part of your youth or if science fiction is simply in your blood. It's difficult to explain where it comes from but I suppose it's simply there as part of your brain function as a result of how it was developed in your youth. Dreams as a child become your reality as an adult. When I was a child I dreamed of building an anti-gravity spaceship. I would doddle in a book drawing of what I imagined a design would be, I'm sure they have no bearing on a real design as I was never really satisfied with them and even as a child I knew they were only basic.

It's a strange thing though, I made those drawings as a child about fifty years ago and now I'm working on a book focusing on a theory of gravity as propulsion. I think to myself will I actually figure out how to build an "anti-gravity" spaceship in my lifetime? I know it's not anti-gravity but that's what my childhood mind was trying to achieve, my childhood dream is now closer than it's ever been to becoming a reality. It seems like it may be part of an unknown plan and I am headed in the direction that I may come full circle. I don't know if I will ever get there but it just seems it may be possible for that dream to come to fruition. It seemed like a pipe dream so long ago.

***

At this point in time being at the starting point an outline of the process to build a technology like this is unlikely to be accurate. I don't know the exact specifics on how to build a machine to simulate time dilation. I haven't tried to build anything yet, so far it's been a project in the mind more than anything else. Who knows if I will make the attempt but I'm sure that if I put my mind to it I may just surprise myself. I will present an outline on what I imagine the propulsion design is and how to possibly achieve it. It may help in the designing of it to imagine what the final product will end up being. I will cover all possibilities that I can imagine associated with this type of technology. Maybe someone out there with an inventive mind will already possess a technique that may lead the way towards quantum gravity propulsion. It may be in their mind with no feasible use and learning of this possibility will open the door and they will put two and two together and have a serendipity moment.

Propelling machines around our environment occurs in a few basic configurations. On a bicycle you have to apply a force downward on the pedals which in turn transfers that force to the back wheel via the drive chain. The force applied to the wheel spins it around propelling the bicycle. On a car the design is similar but the force comes from the gasoline being burned inside of the internal combustion engine. It's more complex because it has greater power and needs to

have a transmission between the engine and the delivery of the force to the back wheels to propel the vehicle. On an airplane which also has an engine delivering the force to propel it is more direct and requires less of a mechanism. The rotating engine can apply force directly to the air to propel it by using a propeller. By rotating the propeller it pushes the air behind the plane which essentially pulls the plane forward. A boat or submarine is similar but pushes the water behind it pushing the vessel forward.

The reasoning behind explaining those different types of propulsion mechanisms is to highlight the multiple ways craft can function to complete the same basic task of transportation. Some have simple ways to apply force and some have complex ways in the overall design to motivate. Also some push the vessel forward and another will pull it forward. There is even some already using the force of gravity to propel them forward. They are a glider plane as well as a simple hang glider. They use the force of gravity which is in the downward direction along with the wind and updrafts due to the warming effect of the sun to soar in the sky. Gravity plays a big part in the pilot's technique to keep the glider air bourn.

Space travel with our current form of rocket propulsion consists of burning an explosive fuel in a combustion chamber. It directs the exhaust out of a nozzle creating a high pressure force out of the bottom of the rocket. That method pushes the rocket forward in order to propel it. The energy created with the combustion of the fuel is specifically directed in the opposite direction that the rocket needs to travel. The force that motivates the rocket is applied to the area of the rocket opposite of its direction. That is a basic rule to motivate any device to move in any medium. If you apply or induce a force on one side of an object or machine it moves it in the direction of the opposite side. With a higher potential on one side and a lower potential on the other the movement is always from higher to lower.

Propelling a ship using quantum gravity propulsion through space-time is no exception to that rule. A force needs to be applied to the craft on the opposite side that the craft is desired to move. It just so happens that that is exactly how gravity moves an object through space-time. The time dilation that an object is immersed in creates an imbalance of time inside of the structure of its atoms. That imbalance creates a potential difference in an atom with the higher potential being on the side opposite of the atoms motivated direction. Since this motion was induced by time dilation the object moves by its self-propulsion toward the source creating the time dilation.

The main process surrounding this propulsion method is first and foremost being able to create artificial time dilation. The type of time dilation can either be increased or decreased time dilation. That means to have the ability to decrease or

increase the speed of time for the act of lifting the ship up off of the ground or planet. The time dilation generator will have to create slow time above the ship and or fast time below the ship. It may be a process that has an inverse function automatically such as if it slows down time above the generator then time speeds up below it and vice versa. It would also be important to be able to direct the field being created towards any direction. The process would be useless if there was no way to control which direction the ship moves.

When I say creating slow or fast time above or below I'm referring to the bubble of artificially created time dilation surrounding the ship. The slow or fast time would be above and or below and gradually dissipating towards the other side of the bubble of time. It would have to simulate natural time dilation which I consider differential time and anything that occupies its space has differential time from one end to the other. If you know how this gravity functions for one atom then that is the way it functions for all of the atoms in the ship. Each atom has a force induced into it by the artificial time dilation. All of the atoms in the ship, cargo and crew have the same forced induced into them. The main goal is to envelop the ship in that time dilation bubble that is created to facilitate the force in the desired direction.

The task to build a quantum gravity drive ship is to utilize that natural mechanism as a source of propulsion in next generation of spaceships. They would need a source of energy, a device, mechanism or technique to manipulate that energy and a means to control and direct the output result. It may be a simple system or multiple level systems between the energy input and its converted output. It's hard to say considering this is an entirely new concept and we have nothing to base an estimate on. I suppose that research and development would go a long way to changing that view. I hope that whoever is reading this book right now and has gotten to this point is excited by the prospect that we are at the dawn of this new technology or possibility.

What is involved with this design is multi-faceted, we must figure out how to simulate time dilation along with determining what type of energy is needed to do that. One of the problems is it's a chicken or the egg analogy. How do we figure out what energy to use if we haven't yet figured out how to simulate time dilation? If we haven't figured out how to simulate time dilation how do we know what energy to start with? The answer to this is simple, we just simply start, and we build a device to determine which direction we need to go for the next iteration. The main goal is to see if we can manipulate time and if so determine a way to control and direct it.

Possible ways to start could be creating and the manipulation of rotating magnetic fields. The key to this method is creating the right frequency of the field

along with the speed of the rotating field (secondary frequency). Another method could be creating a primary carrier frequency along with superimposing another frequency wave on top of that to see what effect that may have. In some instances different frequencies have a resonating match which pairs two frequencies together that complement each other. The effect that occurs allows the energy to flow more easily through the circuit.

Electromagnetic fields store immense power and by collapsing a field that will release its power instantly creating super high voltage. A combination of these characteristics and factors may be involved to design such a device. In a spinning and rotating electromagnetic device if spinning fast enough time dilation starts to alter for the magnetic field. The faster the field spins the greater the effect time dilation has on that portion of it. In a rotating field the portion of the field with the greatest speed is the outer and farthest from the center portion. The inner portion has the lowest speed and it increases gradually out to the perimeter of the rotation visualizing it as a spinning wheel. This method creates a situation where time is slower for part of the electromagnetic windings with the other part in faster time. The energy in the faster time winding (center region) may force the energy to pass through the slower time winding (outer region) creating additional time dilation. It would then have to be directed with another mechanism or control system. These characteristics may play a part in creating a starting point in the quest to figure this technology out.

When you stand on the earth you are occupying differential time dilation. Time is slower at your feet than at your head. Time is gradually increasing from your feet to your head. All of your atoms have slow time on one side of them and faster time on the other side. You would have to create the time generator to simulate the same natural differential time. The generated time dilation can be made to be much stronger than the natural time dilation which would create more power for higher acceleration and speed. The earth's time dilation at a nominal height would create a speed of 9.8 meters (32 feet) per sec ^{2} . That's how fast an object falls towards the earth from a specific height. If you created that much time dilation in the bubble around the ship and opposite of the earth's then the ship would lift off at the same velocity. If you doubled the reverse time dilation around the ship it would lift off at twice that speed. The faster the rate the faster the acceleration, you would be simulating the effect of falling from above a larger and larger planet by increasing the differential in the field of artificial time dilation.

In the new ships using gravity propulsion you can increase the power without any negative effects or inertia on the cargo or crew in the ship. When a force is applied with artificial time dilation it applies a force to every part or atom of the ship and its

contents. Unlike rockets of today that all of the effects and the forces the rocket engine is creating is felt by the ship, cargo and crew. When the rocket changes it trajectory the cargo and crew continue in the initial direction thus feeling the momentum or inertia being released on them. During lift-off the astronaut feels that energy being applied to him or her as increased g-forces. The ship also has to undergo the stress of that additional force of acceleration. When it gets into an orbit and no longer accelerating they do not feel the G-forces any longer. What they do not feel is the amount of energy that is now stored in the atoms of their body. All of that energy applied to get them into orbit didn't just disappear when they became weightless. The mass of the people and the rocket and cargo all have stored energy as momentum. In order to get the rocket and contents back to the earth that energy has to go somewhere. It has to either be drained off or reversed. To drain it that is done by having a capsule with a heat shield to let the atmosphere slowly convert the momentum as velocity into heat on atmospheric re-entry. To reverse it the rocket will have to apply the same amount of energy to reverse course as it did to get to its current position.

Even though there is no stress on the ship or its contents it doesn't negate the momentum stored in its mass as velocity. There is still the same amount of momentum stored as energy within the ship and crew if the ship were to impact another object. The new design of ship simply has a better way to apply energy as force on its contents to change direction as well as reversing that energy or absorbing it. Because gravity is a force this process is a much more natural way to travel.

That explanation was meant to highlight the difference in the current form of travel to the future form of space travel. In the quantum gravity propulsion ships they do not exert g-forces on the ship, contents or crew at all. That is the nature of this type of propulsion. This type of design applies a force to every atom inside of the time dilation bubble. It creates a force on the ship and you in it, the ship is moving with the force and you are also moving with the force. It's as though everything in the ship as well as the ship has its own separate propulsion unit acting in unison with all others. The ship is accelerating upward with its own propulsion while you are also accelerating up with your own propulsion. This is why you do not feel any g-forces on you. You may not even know that the ship just took off and if the ship makes a quick left turn you will not feel that either. Remember every atom is having a force induced into it. The propulsion of the ship is creating the illusion of naturally falling towards the direction the ship is moving.

If that was not clear just remember what this propulsion is, its quantum gravity propulsion. That means that when the ship creates an artificial bubble of

manipulated time dilation around it all of the atoms inside the bubble are propelled in the same direction. It doesn't matter what those atoms belong to they will move in unison from the force induced in them by the time dilation. In today's rockets there are engines beneath them that propel them up during take-off. In the gravity propulsion ships there are no engines that push on the ship, every atom in the ship is an engine, an atomic engine. Each atom creates a force that combined propel the ship up and out into space. Landing is also as uneventful as take-off and that is why this is the next generation of propulsion for future space travel.

This new generation of spaceship using artificially created time dilation would have a huge benefit when it comes to maneuverability and be able to apply propulsive force in any direction. It also has the ability to apply or induce a force within the atoms of the ship in any direction and for any duration of time. That is a great leap over the current form of space rocket. The current rocket design burns its engines and runs out of its propulsion in minutes and usually does it pointed in one direction to obtain its desired trajectory. If it is off on its landing sequence on a trip to mars and flies by without getting captured by mar's gravity then the ship and crew are lost without the ability to get back to earth. It would be a great leap in technology to be able to get in a ship, turn it on and fly to a destination. To be able to take the scenic route and turn left, right or stop and enjoy the view. Rockets of today and the way they function you cannot do that because the force as momentum would have to be reversed which requires equal energy to do so.

Creating propulsion by producing a time dilation field the ship can point that towards any direction thereby changing the ships trajectory it can turn around easily. It would be powered by some form of electricity using that to power the time dilation generator. Also since it isn't powered by fuel it can have an unending amount of propulsion which is only limited by its power sources capability. I suppose the best source of energy for the first generation of these ships would most likely be nuclear power. That would be the most feasible without having to imagine some futuristic method that would be too much of a dream than reality. Nuclear power is what is available right now so that reduces the amount of new technology we would have to invent. Improvements would come with future iterations.

Here is an example that explains the process of the time dilation bubble comparing it to natural time dilation. Imagine that you are sitting on the moon looking at the earth and below the earth is a spaceship with the top of the ship facing earth. Now imagine that the ship is moving towards the earth. Because the ship is using a quantum gravity propulsion method you see the ship moving but don't know what is moving it. Inside the ship what isn't bolted down as well as the crew is floating around as the ship is being propelled towards the earth.

This example shows that everything individually in the ship is moving under the force of the time dilation that the ship occupies inside the bubble. There is no distinguishing difference in this example of how the time dilation that the ship is occupying was created. It may have been created by the ship artificially or created by the earths mass as natural time dilation. That is the beauty of this process because it's a totally natural phenomenon. Just because we don't have the machines to utilize this process now it doesn't mean we never will. Now that we can see more clearly we can endeavor to find a way. If Albert Einstein and Nikola Tesla had gotten together to work on it I'm sure they would have figured it out.

Is it possible to build a ship that travels faster than the speed of light? The answer is yes, of course it is, and the way to achieve that is in relativity or more specifically building a ship that uses the characteristics of relativity. You can travel faster than light because the speed of light is not constant relatively. The speed of light is a constant but it isn't constant. Light emanating from a star is moving at the speed of light, at the maximum speed limit but its passing through the time dilation of the star. The time dilation has slower time at the surface and time is increasing in speed with distance. That means if you compared the speeds to one another relative to that specific point then at the surface of the star the light is traveling slower than at a point farther from the surface. It is also going faster even farther out and faster farther out if you compare all points at once.

If you could measure real time speeds that the time dilation creates you would see that the light is moving slower nearer to the star and faster farther away. The light isn't actually moving slower at the surface time is only moving slower. When you compare the light in slow time verses fast time it has a higher relative speed in the faster time. That shows the relativistic nature of the speed of light. If light speeds are relativistic naturally then why wouldn't you be able to create a machine to utilize a similar process artificially?

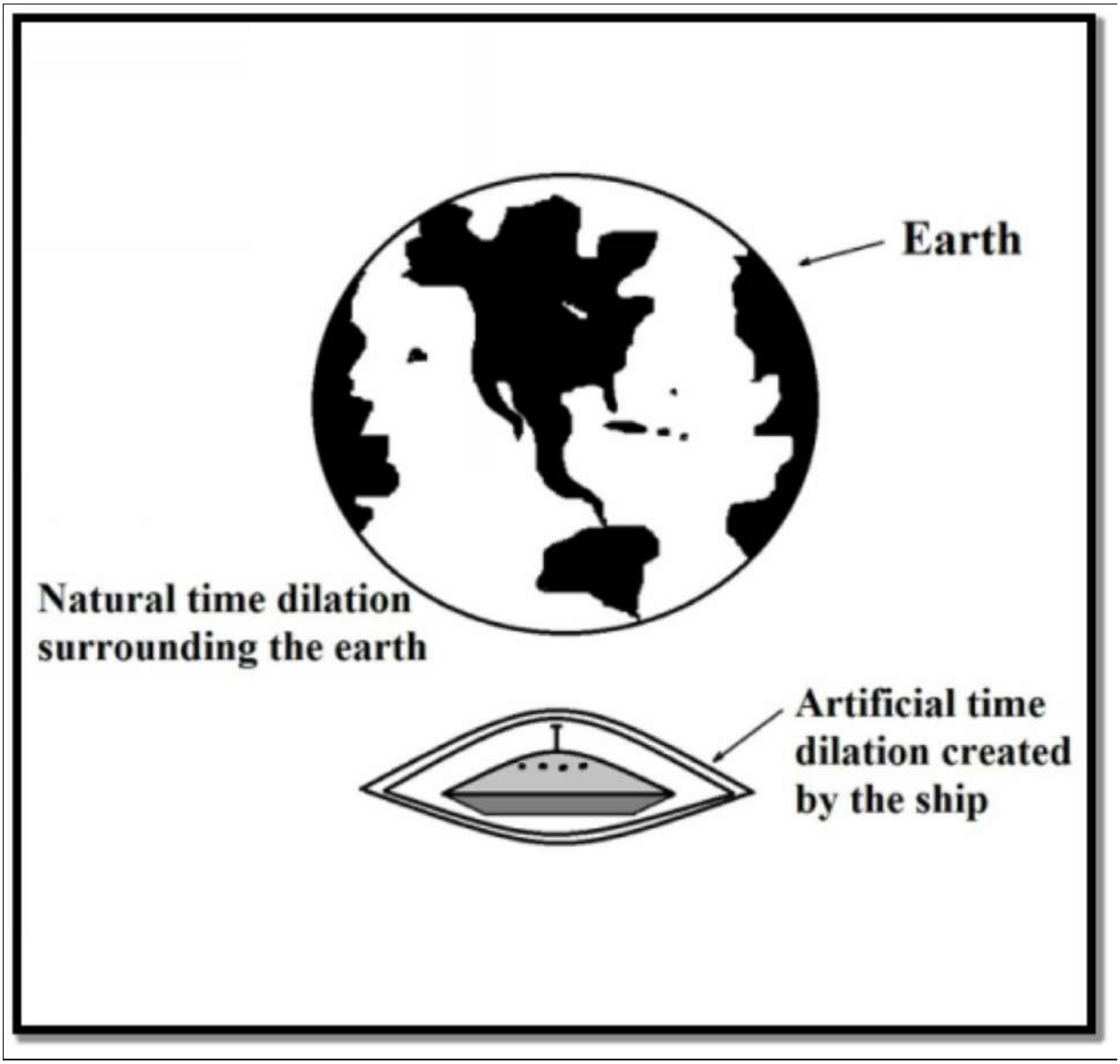
If you were able to create a ship with an inverse time dilation field of slow and fast time that may accomplish the task. To create the field so that around or outside of the ship time is increased and passes faster but for the ship and its contents time is decreased and is slower, that would create relativistic travel speeds. If the ship were to travel at 10,000 mph towards Jupiter and then engage the "inverse time drive" the speed would increase relative to the inverse field created. Just to keep the math simple if the inverse field was a factor of ten that means time speeds up around the ship times ten and slows down in the ship times ten. That would make the relativistic multiplier one hundred. Multiply 10,000 mph by 100 to get the relativistic speed. The relativistic speed would be 1,000,000 mph. If you were to create a higher nominal speed initially as well as the highest inverse time ratio you

would dramatically increase the top relativistic speed.

If light is moving around the universe at all different speeds relatively and the speed of light is a constant and the speed of time is constant then time dilation is the root of all relativity. We see the universe only as we imagine, we aren't seeing it as it actually exits in reality. We see it from one perspective but not from multiple perspectives. That seems to be the key here to go above and beyond and strive to take steps in learning more about the world around us. We get complacent with the status quo and stop climbing the stairs after one step. We do keep striving to learn but we don't stop to clean ours glass in order to see more clearly. We have to be able to look at things differently in order to change a perspective and point of view. That is the equivalent to getting up out of a chair and stretching your legs. Changing your perspective and point of view is akin to exercising your thought process.

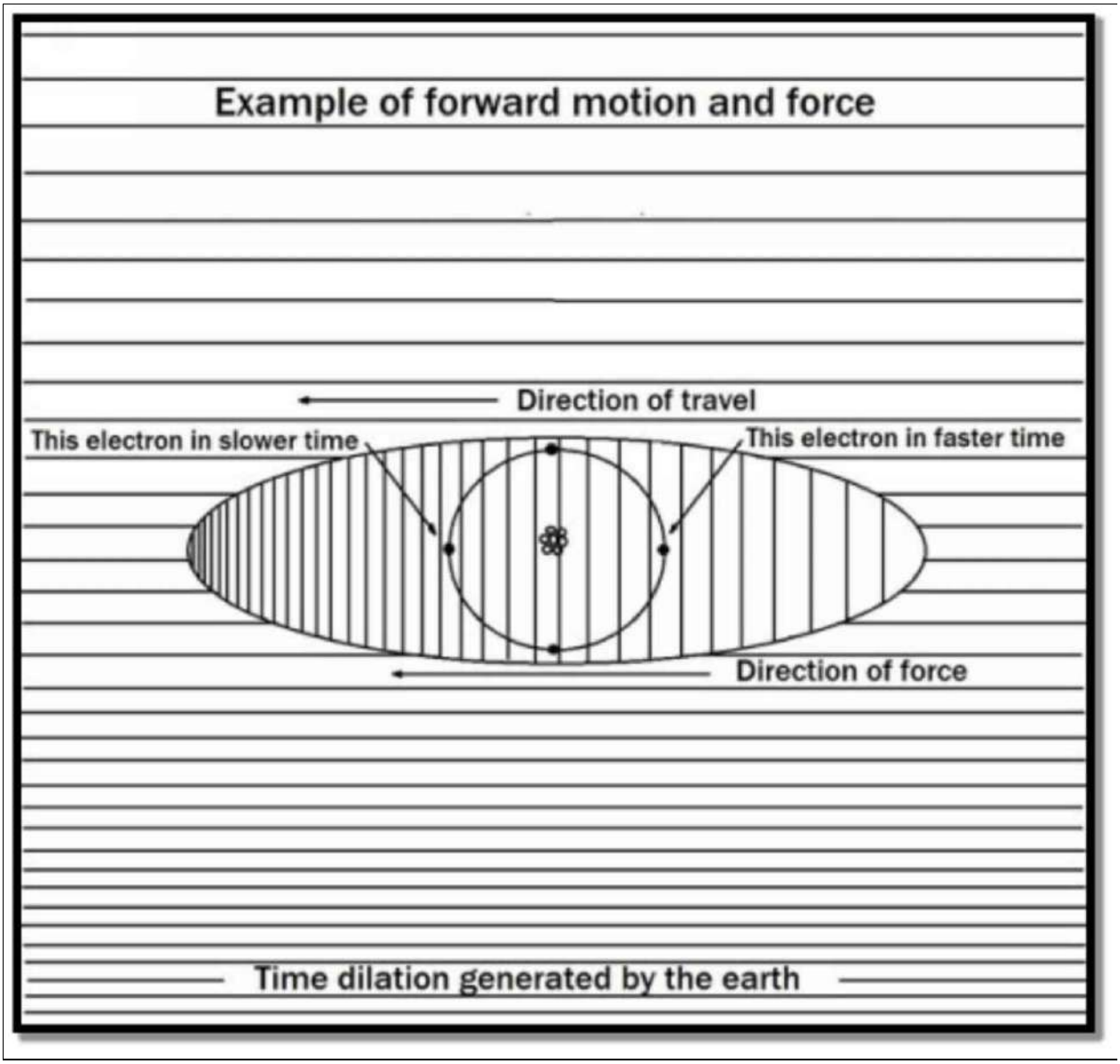
Who could have imagined that after all of these years and the technological leaps in rocket design made only in the last twenty years that gravity is a natural propulsion process. When we finally learn how gravity works we also find out that we can put that theory to good use. To use the same process that creates gravity to propel any machine designed to transport things, cargo or people. What we see in science fiction movies we may be close to turning those ships into science nonfiction. I know it's a little early to make that prediction but they are more dreams than anything else and a dream is the blueprint to build from. If you can dream it you can do it, everything monumental that has occurred in history has started out as a dream. What is exciting about this now is since we know how quantum gravity functions we can put it to use and move forward into the future. We can get back to climbing those stairs so that we can reach the next level. That's the purpose of existing here on this earth as conscious beings, to strive and progress in order to improve our way of life and of those that we need to take care of.

Illustration 5-1; Natural or artificial time dilation propulsion?



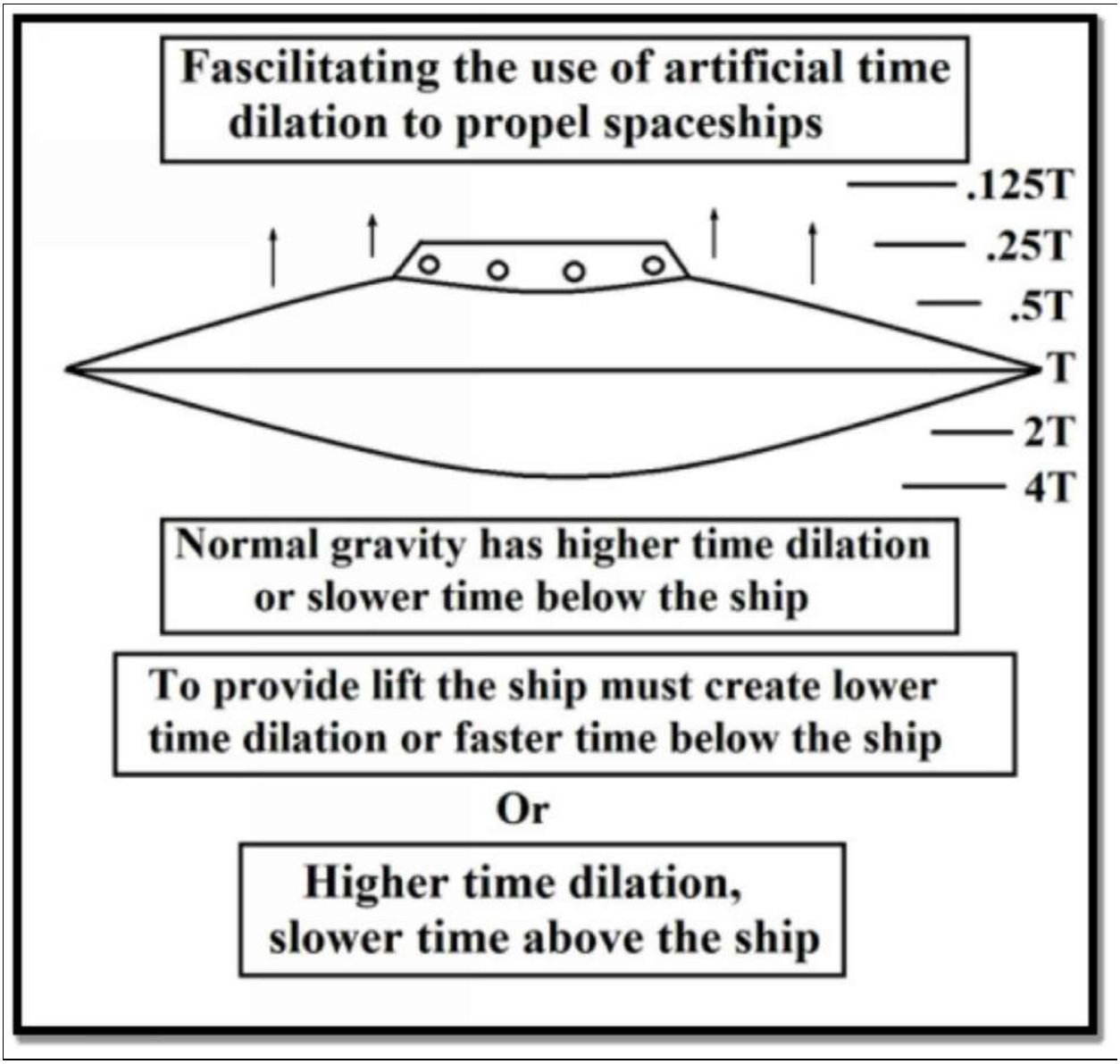
This shows an instance when there would be no difference in the time dilation between the natural created by earth or artificial created by the ship. The reason for this is because the earth's time dilation naturally causes objects to be propelled towards it. In this instance the ship is moving toward the earth, its time dilation propulsion would be in the same configuration as the natural time dilation surrounding the earth. The ship can increase or decrease the propulsion as needed to change the velocity or speed it is moving.

Illustration 5-2; Time dilation pocket on an atom.


Example of forward motion and force
Direction of travel
This electron in slower time
This electron in faster time
Direction of force
Time dilation generated by the earth

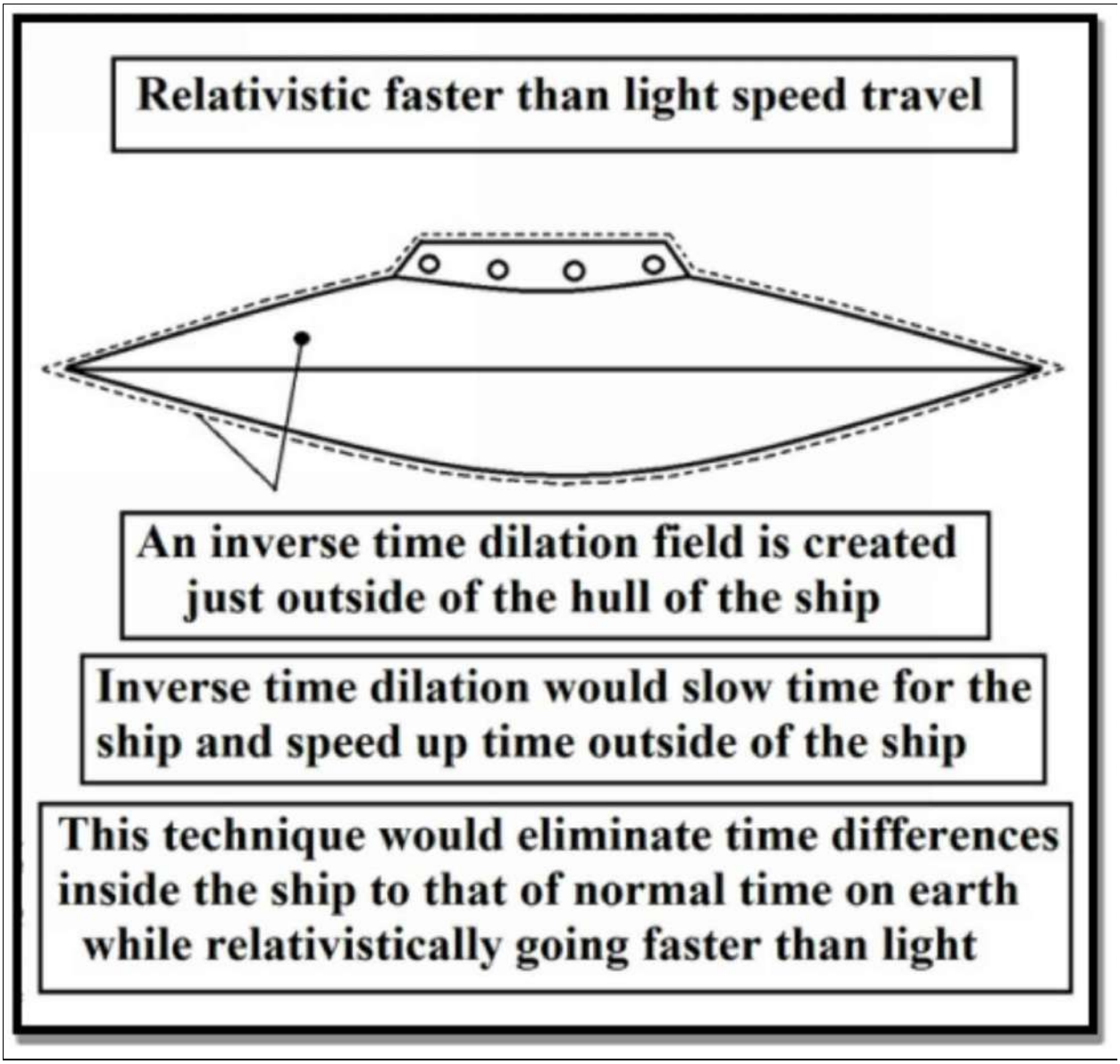
This is the time dilation pocket created by a ship and showing how an atom in the ship would react to the direction of the time dilation. You see the main time dilation created by the earth and inside the pocket around the ship you see what the ship creates. Essentially you see the atom falling towards the direction of force but since it's in a pocket artificially created its moving parallel to the earth. This means that if you can simulate time dilation it can be used as a means of propulsion, this opens up huge possibilities.

Illustration 5-3; Increase or decrease time dilation for ship.


Fascilitating the use of artificial time dilation to propel spaceships
.125T
.25T
.5T
T
2T
4T
Normal gravity has higher time dilation or slower time below the ship
To provide lift the ship must create lower time dilation or faster time below the ship
Or
Higher time dilation, slower time above the ship

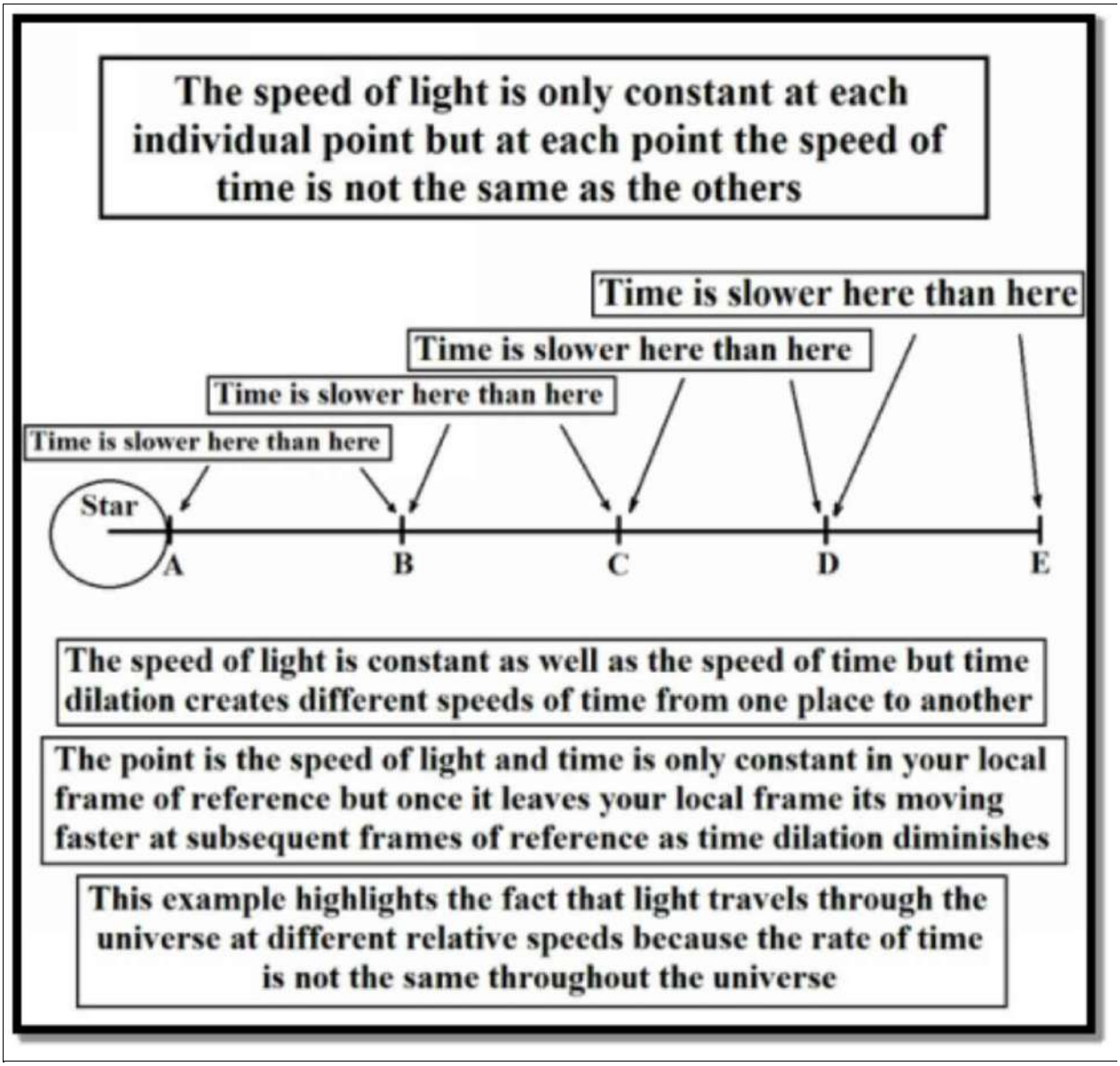
This illustration is basically stating that the artificial time dilation it creates can be an increase or decrease, to slow or speed up time. If you slow time then that must be directed upward to move upward. The same can be accomplished by instead speeding up time below the ship, which would also lift the ship upwards. Both of those will induce a potential in the atoms of the ship and apply a force in the upward direction.

Illustration 5-4; Travel faster than the speed of light.


Relativistic faster than light speed travel
An inverse time dilation field is created just outside of the hull of the ship
Inverse time dilation would slow time for the ship and speed up time outside of the ship
This technique would eliminate time differences inside the ship to that of normal time on earth while relativistically going faster than light

To travel faster than the speed of light you must use relativistic methods. There must be an inverse time pocket around the ship so that the ship is in slow time and a pocket of space-time outside the ship is in faster time. This would multiply the ships nominal speed by the factor of the inverse time field. The factor is 100 if you speed up time by 10 and slow down time by 10 on each direction of the inverse pocket. By using this relativistic method you can travel faster than the speed of light just the same is if it was a nominal speed.

Illustration 5-5; Time dilation creates relativistic differences.


The speed of light is only constant at each individual point but at each point the speed of time is not the same as the others
Time is slower here than here
Time is slower here than here
Time is slower here than here
Time is slower here than here
Star
A
B
C
D
E
The speed of light is constant as well as the speed of time but time dilation creates different speeds of time from one place to another
The point is the speed of light and time is only constant in your local frame of reference but once it leaves your local frame its moving faster at subsequent frames of reference as time dilation diminishes
This example highlights the fact that light travels through the universe at different relative speeds because the rate of time is not the same throughout the universe

The speed of light has relativistic differences in speed when moving from an area of any time dilation outward. You could almost say that light from a star increases in speed the further away from the star it travels. When it's in slow or fast time it's moving at the speed of light but in faster time it's going further than when in the slower time. You could deduce that it increases its speed in a relativistic way as time speeds up. This also aids the thought process of having a larger spatial distance in slower time making it take longer.

Conclusion

I really didn't plan on this book being critical of general relativity, I planned to simply describe my theories clearly and let the information speak for itself. To put my theory out there in print and let the reader be the judge. I am only critical of the end result of general relativity of how it characterizes gravity not on the thoughts and specifics that took Einstein there. Gravitational time dilation is one of the factors of general relativity that has been proven in more than one way. When something has been proven in more than one way the premise becomes closer to fact. Gravitational time dilation is a proven fact because if it weren't I wouldn't have based my theory of quantum gravity on it. Considering that I can't be too critical of general relativity if it's the basis of my theory. In a way if Einstein hadn't created "General Relativity" I couldn't have created my theory of "Quantum Gravity". Even more so if he hadn't created special relativity the same holds true. One of the main characteristics of my theory is the relative difference of speed of the electrons orbit in the slow verses fast time. I can say clearly and confidently that Albert Einstein laid the foundation for my theory of quantum gravity.

What I cannot say is why Einstein didn't follow the same path with his own theories as I did with his theories other than that most or all physicists always choose complex explanations over simple ones. This theory of quantum gravity cannot be any simpler but even so it's based on a sound premise and characteristic. It's even ironic since my theory is based on Einstein's theories and Einstein thought he had accurately disputed Isaac Newton's theory of gravity. A century later it turns out that Einstein actually laid the foundation for a theory that completes Newton's lifelong work on gravitation by describing the mechanism of how gravity functions.

Einstein's fame came deservingly so from his unique way of describing time and relativity which was a pivotal point in theoretical physics. I think along with that fame carried the pressure to follow up and come up with a theory of gravity which motivated him to accept a theory that left a lot to the imagination. General relativity

doesn’t explain satisfactorily the details of how the curvature of space-time simulates a gravitational force because as it says gravity is not a force. Even though Eddington proved that light bends while passing a star that one aspect essentially proved the accuracy of general relativity. That is not the way things have always been done in the past. Accepting a theory to be accurate usually takes more than a single prediction coming true. Einstein based that effect to light following a straight path through curved space-time but he could have easily made the same prediction based on his theory of gravitational time dilation. That is probably where he spawned the idea of curved space-time basing it on gravitational time dilation. I believe he went too far out of the parameters of common sense and simplicity when he equated time dilation to the geodesic curvature of space-time.

That has set us back a century in being able to build the technology that can simulate a gravitational force in order to utilize it as propulsion in spacecraft. Until we come to understand a new set of theories that connect and validate each other then we will never progress past this era. To move on to being able to utilize what is right around us to travel among the stars. To use the natural propulsion this universe provides to us, we just have to unlock the process and master it.

I suppose that is the real reason having an accurate theory of gravity is important. We could just glide along the path of existence the way we are and be pretty much stuck to this planet, maybe go back to the moon or go to mars. But with the current state of space travel it will be hard to justify a constant presence on the moon and mars simply for the sake of doing it. Similar to the Apollo missions to the moon, they built it, flew it and landed it about a half dozen times then packed the program in mothballs for fifty years. That is a generalization but you get my point. The cost will be too high and the return not enough to make it worthwhile. Technologically we are still just not there yet but we are inching closer and closer now that the space industry has become privatized.

It is very exciting to see the new interest in the quest to go back to the moon and even more exciting to see the progress being made right now working up to finalize a rocket capable of going to mars. But the difficulty and cost of doing that using the current state of rocketry makes it highly likely it will be a onetime deal or be few and far between. The cost is so high in order to make it safe for humans in such an unforgiving environment. The alternative is to send “human” virtual reality robot avatars that are controlled by people here on earth as if they were actually on mars. They would be working and building the city and getting ready for human habitation. Starting out that way would keep the costs down and create a proof of concept for the process before humans take the trip. Later on when we build gravity propulsion spaceships the risk to our astronauts would become marginal and the

trips will increase exponentially.

That is the real reason having an accurate theory of gravity is important. Because hidden in the theory is a process that can be utilized as a means of propulsion for spaceships that can easily and much more safely take people back and forth to anywhere in the solar system. If we use rockets then that limits the possibilities to going to the moon and mars. But if we use the next generation of propulsion then we have the entire solar system to explore. The process isn't even hidden, it is the process of gravity, and every atom in the universe uses gravity propulsion to move it to the nearest source of dominant time dilation. Imagine what we could have built in the last hundred years if we had come to this conclusion sooner and without being side tracked. We can't get back that time now but we can start looking forward by changing the way we look at the natural processes of things within the universe to get us out there to start exploring it.

I know the task seem daunting when looking at it from this perspective. Looking at it from the perspective of conception and trying to perceive what it will be and how it will work. It's hard to imagine but isn't that the way we do things, to use our ingenuity and imagination to satisfy that need we have in our hearts to create. To create something new, something we've never achieved previously because this is the first time we even thought it was possible. The process I speak of and the information you have just read I am whole heartedly confident of its integrity. I didn't write this book for some whimsical flimsy run of the mill theory. I wrote it because I am totally confident in it to be justifiable and accurate. I want it to be the first step in helping us achieve a new level of technological advancement. I wrote this book to provide an accurate common sense explanation for the process of gravity and by coincidence also developed the means to start developing a ground breaking revolution in transportation.

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This started out as a book on a rational, analytical common sense theory of gravity. It was spawned not from science fiction or far outlandish ideas but of pieces and characteristics of this universe that have already existed for the last century. It began with Einstein's theories of relativity and time dilation. Coupled with the knowledge of the atom and my own interpretation of the relationship between perspective (relative) space and time we get a better view of gravity. We find out that gravity isn't just something we experience and have to work against to get out there into space. But of a gravity that we can put to use, to utilize its characteristics, to simulate a ship falling towards the earth but in reality sending it to mars. It's an honor for me for you to have read this book and to share in the dream. It's a dream to feel the most free, to be out there in space to experience the adventure and the

unknown. You have just taken the first step to make a little bit of that unknown known. We are at the dawn of the next greatest adventure of a lifetime, buckle your seatbelt.

About the Author

The author Scott Calvert is an American of Norwegian, English, German and French decent. His father's heritage is Norwegian and English and his mother's is German and French. He attended and graduated from Neshaminy High School in Langhorne, Pennsylvania and also attended Night school at Bucks County Community College in Newtown, Pa.

His fascination with the universe was sowed at an early age with the description that the universe was infinite in size and that being a paradox puzzled him which would occupy his mind throughout his life. After spending most of his lifetime working out the details of the universe he is finally putting those thoughts into these two books. They are the end result of him following his fascination of the subject matter. He is aware of the tall mountain he has to try and climb for these books to be accepted. Writing these books to try and change the general consensus of cosmology was not a choice it was a directive from the universe. After the answers to long sought after questions revealed themselves he was compelled to share them. He has no formal education in physics or math which may be either a good or bad thing for the sales of this book or acceptance of these theories but he does have the ability to see things somewhat differently which lead him to his own ideas and theories instead of following others and accepting things simply because there is no other explanation being provided.

He published this book to give other people the ability to see that there are alternatives to commonly excepted theories about what is normally accepted and not questioned. To get away from old and antiquated theories that do not make rational sense and replace them with new common sense versions that provide a broader and more accurate picture.

This is his second book on the topic of theoretical physics with the first covering the entire sphere of the universe. He shares his unique vision of the creation of the

universe and the cycle that it follows. The dissection of black-holes from beginning to end and the parts they play in the transition of the universe from one incarnation to another. He describes how he believes time dilation is the mechanism that produces the effects that we see that suggests dark matter theory should be accepted at face value. Since he has no college degree he isn't tied down by preconceived ideas and dogma. He thinks for himself and looks at things from his perspective to really get into how things work and function. The universe is the most exciting and thought provoking puzzle in his lifetime and he enjoyed disassembling and then reassembling it.

This book covers specifically quantum gravity and there are other alternative common sense explanations of dark matter, dark energy, the big bang theory, and black-holes in,

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